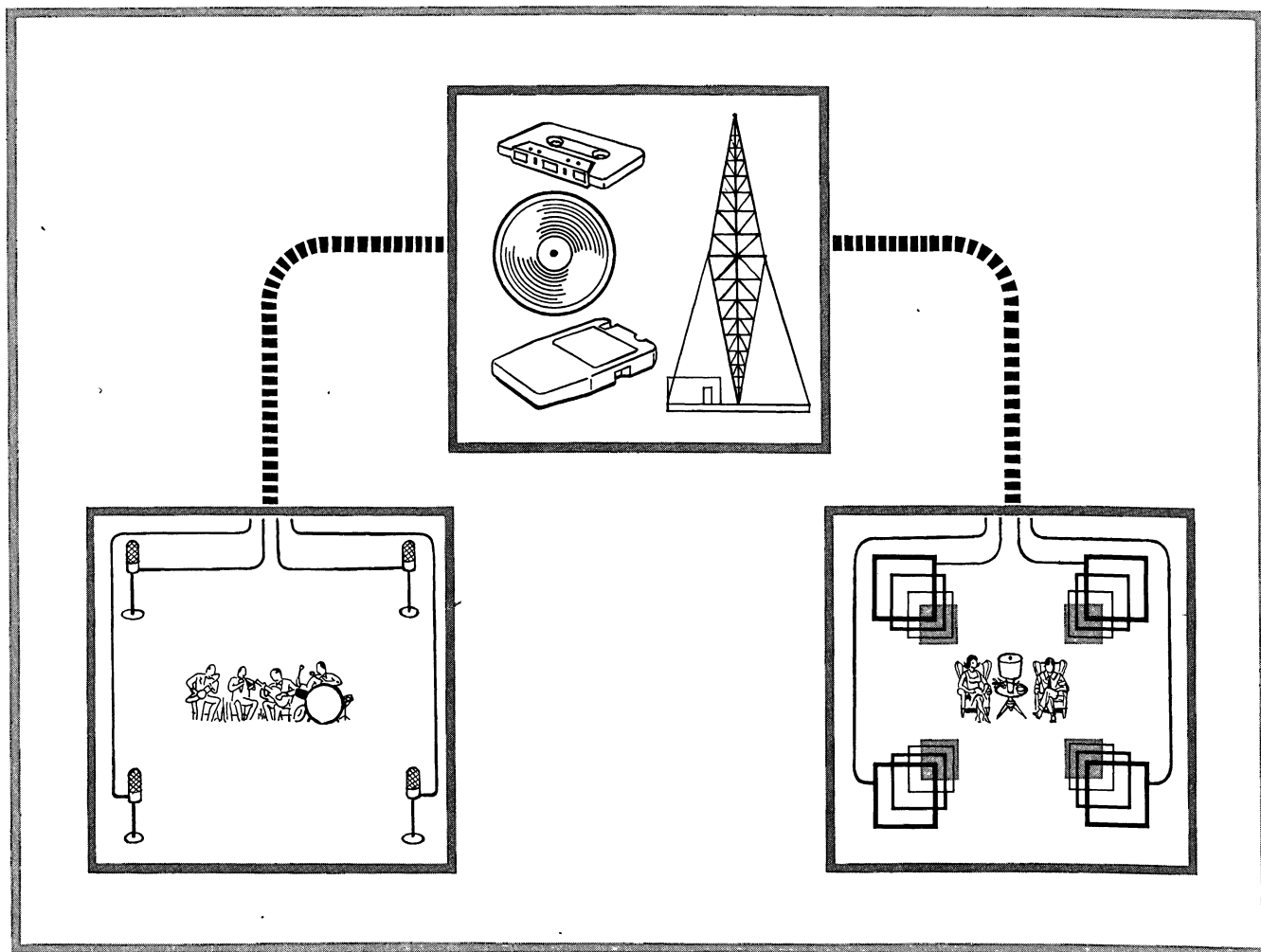


HF-33S1

HF-33S1



SERVICE MANUAL



MODULAR AND CONSOLE AUDIO PRODUCTS

ZENITH RADIO CORPORATION
PARTS AND SERVICE DIVISION

11000 SEYMOUR AVENUE, FRANKLIN PARK, ILLINOIS 60131

To the Service Technician

PRODUCT SAFETY SERVICING GUIDELINES FOR ALL AUDIO AMPLIFIERS AND RADIO RECEIVERS

CAUTION: No modification of any circuit should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines. To do otherwise increases the risk of potential hazards and injury to the user.

SAFETY CHECKS

SUBJECT: Fire & Shock Hazard

1. Be sure that all components are positioned in such a way to avoid possibility of adjacent components shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Always replace all protective devices such as insulators and barriers after working on a receiver.
3. Check for frayed insulation on wires including the AC cord. Also check across-the-line components for damage and replace if necessary.
4. All fuses and certain resistors and capacitors which are of the flameproof type (shaded on the schematic diagrams and parts lists) must be replaced with exact Zenith types to prevent potential fire hazard.
5. After re-assembly of the set always perform an AC leakage test on the exposed metallic parts of the cabinet such as the knobs, antenna terminals, etc. to be sure the set is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this test. Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner: Connect a 1500 ohm 10 watt resistor, (63-10401-76) paralleled by a .15 mfd. AC type capacitor (22-4384) between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination 1500 ohm resistor and .15 mfd. capacitor. Reverse the AC plug on the set and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed .3 volts RMS. This corresponds to 0.2 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

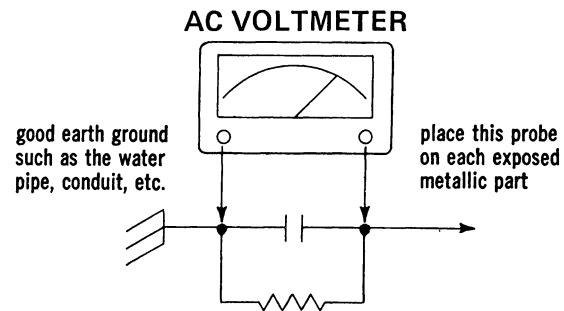


TABLE OF CONTENTS

Safety Servicing Guidelines and Technical Applications Index	Inside Front Cover
Index to Schematics and Related Drawings	Page 1
Product Features	Pages 2-6
Record Changer Features	Page 7
Tape Player/Recorder Features	Pages 8-9
General Information	
Alignment Procedures	
Technical Applications	Page 10-12
Representative Model Illustrations	Pages 14-18
Schematics, Related Drawings and Parts Legends (Refer to Index on Page 1)	Pages 20-23

TECHNICAL APPLICATIONS INDEX

Various "HF" series service manuals contain information relating to solid state device theory, operation and circuit applications as introduced into our products. In addition, service procedures are also explained, if required, in the appropriate service manuals. Such information has been included in the following service manuals:

- HF 18: Theory — Diodes (Including Zener and SCR), Transistors, (PNP, NPN, Darlington, and JFET). Applications — Chassis 29AT24 (JFET FM-RF, Multiplex, Electronic Touch Switching), Complementary Symmetry, Chassis 11ZT27 (Electronic Filter).
- HF 22: Theory — JFET, IGFET, MOSFET, Applications — Dual Gate MOSFET FM-RF, JFET Bilex Detector, Quasi-Complementary Symmetry.
- HF 23: Applications — Model C9029/Chassis 15WCA10 Four Channel Decoder.
- HF 26: Applications — Chassis 15WDR51 (JFET Meter Circuit, Multiplex IC, Four Channel Decoding).
- HF 27: Applications — Model SD2568 Speaker Switching Circuitry.
- HF 28: Applications — Model D9013W Allegro Speaker System.
- HF 29: Theory — Light Emitting Diodes (LED). Applications — Three Light Tuning (Target Tuning), Multiplex IC.
- HF 29S1: Applications — Snap-off Escutcheon and Out Front Chassis Removal, "E" Line Models.
- HF 30: Applications — Snap-off Escutcheon and Out Front Chassis Removal, "F" Line Models.
- HF 31: Theory and Applications — Chassis 12WGR59 (Ceramic Filters, IF IC, Quadrature Detector, Interstation Muting, PLL Multiplex IC, Audio). General Product Information — Audio Circuitry (including Two on Two Speaker Matrix, Allegro Speaker Systems), "G" Line Disassembly Procedures.
- HF 31S2: Applications — Four Channel Sound Reproduction Input Vs. Output, Repairing Push Button Switches, Record Changer and Phono Cartridge Interchangeability, Chassis 12WGR59 Accessibility.
- HF 32: Applications — "H" Line Disassembly Procedures, Part Number Identification, Record Changer and Phono Cartridge Interchangeability, "H" Line Allegro Speaker Systems and Repair Procedures.
- HF 33: Theory and Applications — Chassis 3WJR52 (Ceramic Filters, IF IC's for AM and FM, Quadrature Detector, PLL Multiplex IC, Audio). General Product Information — Audio Circuitry (including Output IC), "J" Line Disassembly Procedures.
- HF 33S1: Applications — "J" Line Allegro Speaker System Repair Procedures.

INDEX

CHASSIS OR MODEL	INFORMATION ON PAGE	PRIOR DATA CONTAINED IN	CHASSIS OR MODEL	INFORMATION ON PAGE	PRIOR DATA CONTAINED IN
1WDA10	—	HF 26	20AT31Z	—	HF 18, 19, 20
1WDA10Z1	—	HF 28	21BT30	—	HF 18S2, 19
1WEA10 (Z1)	—	HF 28S1, 29, 30	21BT34	—	HF 19, 20, 21, 22, 23
1WEA11 (Z1)	—	HF 28S1, 29, 30	21BT34Z1	—	HF 22, 23
1WGR50	—	HF 31S1, 31S2	25AT20	—	HF 18, 18S1, 19
1WJR55	20, 24, 25	HF 33	25BT22	—	HF 19, 23
2AT30	—	HF 18, 19	25WDA10	—	HF 27, 28, 30
3WEA10 (Z1)	—	HF 29, 29S2, 30	25WDR50	—	HF 26, 27
3AT20	—	HF 18S1, 18S2, 19, 21, 26	25WDR50Z1	—	HF 27
3AT20Z1	—	HF 28, 29	27BT30	—	HF 19, 21, 22
3AT20Z2	—	HF 29	29CT20	—	HF 22, 24
3WGR50	—	HF 31, 31S1	29CT21	—	HF 22, 24
3WHR50	—	HF 32, 32S1	29CT21Z1	—	HF 24
3WJR50, 50Z	20, 26	HF 33	29CT21Z2	—	HF 26, 27
3WJR51, 51Z	21, 27	HF 33	29AT24	—	HF 18, 19, 22
3WGR52	—	HF 31, 31S1	29AT24Z1	—	HF 22
3WHR52	—	HF 32S1	29AT24Z2	—	HF 26, 29, 30
3WJR52, 52Z	21, 28	HF 33	29CT30	—	HF 22, 23, 24
3WGR54	—	HF 31, 32S1	35WDR50	—	HF 26, 28, 29
4WDR50X	—	HF 25, 26	35WDR50Z1	—	HF 29, 29S1, 30
4WDR50X (X1)	—	HF 26	3WFR50	—	HF 30, 30S1, 32S1
5WDR50X (X1)	—	HF 26, 30	E543W (1)	—	HF 29, 29S1
5WER50	—	HF 28S1, 29, 29S1, 30, 30S1	B545W	—	HF 21, 23, 24
5WFR50	—	HF 30, 31S1, 31	D546W (1)	—	HF 26, 28
5WER51	—	HF 29, 29S1, 30, 30S1	B553W	—	HF 21, 22, 24
5WFR51	—	HF 30, 30S1	B554W (1)	—	HF 26, 28
5WER52	—	HF 29S2, 30, 30S1	D556W (1)	—	HF 26, 28
5WER52Z1	—	HF 30, 30S1	D583W (1)	—	HF 26
5WER52Z2	—	HF 30, 30S1	D742W (1)	—	HF 26, 28
5WER52Z3	—	HF 30, 30S1	E743W (1)	—	HF 29S1
5WER53	—	HF 29, 29S1, 30	G1000W	—	HF 31, 31S1
5WFR53	—	HF 30, 30S1	H1000W, W1, W2, W3	—	HF 32
6AT24	—	HF 18, 19, 22, 26, 27, 29, 30, 30S1	J1000W1, W2	—	HF 33
6WGR55	—	HF 31, 31S1	G2000W	—	HF 31, 31S1
6WHR55	—	HF 32, 32S1	G2000W11	—	HF 31S1
6WGR56	—	HF 31, 31S1	H2000W, W3	—	HF 32
6WHR56	—	HF 32, 32S1	J2000W1, W2	—	HF 33
6WGR57	—	HF 31, 31S1	G3000W	—	HF 31, 31S1
6WHR57	—	HF 32, 32S1	G3000W11	—	HF 31S1
6WGR90	—	HF 31S1	H3000W, W3	—	HF 32
6WGR91	—	HF 31S2	J3000W1	—	HF 33
8BT20	—	HF 19, 21	D9011W	—	HF 26, 29, 29S1
8WJR56	21, 29, 34	HF 33	E9012W (1)	—	HF 29S1, 30
8WJR57	22, 30, 34	HF 33	G9012W1	—	HF 31, 31S1
8ZT20	—	HF 18, 19	D9013W	—	HF 26, 28
9AT27	—	HF 18, 19	E9014W (1)	—	HF 29S1, 30
10AT26	—	HF 19S2, 20, 22	E9014X (1)	—	HF 29S1, 30
10YT26	—	HF 18, 18S2, 20	G9014W	—	HF 31S1
10ZT30	—	HF 18, 19, 20	C9015W	—	HF 24, 25
10AT27	—	HF 18, 19, 20	C9016W	—	HF 24, 25
11ZT27	—	HF 18, 19, 20, 21	D9016W	—	HF 29, 29S1
11AT30	—	HF 18, 19	S9017W (1)	—	HF 18, 22, 27
12WGR58	—	HF 31, 32S1	S9017W2	—	HF 27
12WGR59	—	HF 31, 31S1	E9018W (1)	—	HF 29S1, 30
12WHR29	—	HF 32, 32S1	G9019W	—	HF 31, 31S1
15WJR29	23, 31, 32, 33, 34	HF 33	E9026W	—	HF 30S1
15WCA10	—	HF 23, 24, 27	E9029W	—	HF 29S1
15WEA10	—	HF 29S1, 30	S-82931	—	HF 18S1, 19, 23
15WDR50Z1	—	HF 25, 26, 29	S-83179	—	HF 18, 18S1, 19, 22, 26, 29, 30
15WDR51	—	HF 26, 27, 29, 30	—	—	—
15WFR51	—	HF 30, 30S1	SPEAKER	24	—
15WER55	—	HF 29, 29S1, 29S2, 30, 30S1	WIRING	—	—
15WFR55	—	HF 30, 30S1	SCHEMATICS	—	—
15WER56	—	HF 29, 29S1, 29S2, 30	—	—	—
15WFR57	—	HF 30, 30S1	—	—	—
16CT21	—	HF 22, 25, 26	—	—	—
20AT21 (Z)	—	HF 18, 21	—	—	—
20AT30 (Z)	—	HF 18, 18S2, 19	—	—	—

HF 18 is Part No. 923-558
 HF 19 is Part No. 923-606
 HF 22 is Part No. 923-642
 HF 25 is Part No. 923-669
 HF 28 is Part No. 923-718
 HF 29S1 is Part No. 923-762
 HF 30S1 is Part No. 923-841
 HF 31S2 is Part No. 923-864

HF 18S1 is Part No. 923-576
 HF 20 is Part No. 923-610
 HF 23 is Part No. 923-646
 HF 26 is Part No. 923-702
 HF 28S1 is Part No. 923-734
 HF 29S2 is Part No. 923-784
 HF 31 is Part No. 923-848
 HF 32 is Part No. 923-874
 HF 33 is Part No. 923-901

HF 18S2 is Part No. 923-592
 HF 21 is Part No. 923-626
 HF 24 is Part No. 923-653
 HF 27 is Part No. 923-707
 HF 29 is Part No. 923-740
 HF 30 is Part No. 923-809
 HF 31S1 is Part No. 923-857
 HF 32S1 is Part No. 923-895

PRODUCT FEATURES

SEE NOTES ON PAGE 6

CABINET			CHASSIS		SPEAKERS			RECORD CHANGER	OTHER FEATURES		
MODEL	COLOR	STYLE NOTE A	MODEL	TYPE	PART NUMBER	IMPED. (In Ohms)	QTY. AND SIZE (In Inches)	PART NUMBER NOTE B	TAPE PROVISION NOTE C	SPEAKER PROVISION NOTE D	MISC. NOTE E
J584W	Walnut	M, LL	3WJR51	AM/FM/FM Stereo/Phono	Note D2	—	—	169-554	TM	A1,A2,A3	DL, H, TIO
J584W1	Walnut	M, LL	3WJR51	AM/FM/FM Stereo/Phono	Note D2	—	—	169-512A	TM	A1,A2,A3	DL, H, TIO
J584W2	Walnut	M, LL	3WJR51Z	AM/FM/FM Stereo/Phono	Note D2	—	—	169-554	TM	A1,A2,A3	DL, H, TIO
J584W3	Walnut	M, LL	3WJR51Z	AM/FM/FM Stereo/Phono	Note D2	—	—	169-512A	TM	A1,A2,A3	DL, H, TIO
J587W	Walnut	M, LL	3WJR52	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-554	8TK-P 169-544	A1,A2,A3	AUX, DL, H, TO
JR587W	Walnut	M, LL	3WJR52	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-554	8TK-R/P 169-546	A1,A2,A3	AUX, DL, H, TO
JR588W	Walnut	M, LL	3WJR52	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-554	CASS - R/P 169-543	A1,A2,A3	AUX, DL, H, TO
J590W	Walnut	M, LL	8WJR57	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-555	8TK-P 169-510C 169-510E 169-510F 169-510G or 169-510	A1,A2,A3 SPK	AUX, DL, F, H, T, TIO, UNI
JR590W	Walnut	M, LL	8WJR57	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-555	8TK-R/P 169-507-02	A1,A2,A3 SPK	AUX, DL, F, H, T, TIO, UNI
JR590W1	Walnut	M, LL	8WJR57	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-555	8TK-R/P 169-507	A1,A2,A3 SPK	AUX, DL, F, H, T, TIO, UNI
JR591W	Walnut	M, LL	8WJR57	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-555	CASS-R/P 169-539	A1,A2,A3 SPK	AUX, DL, F, H, T, TIO, UNI
J596W	Walnut	M, LL	15WJR29	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-556 or 169-556-01	8TK-P 169-505B, 169-505A, 169-505G, 169-505E, or 169-505F	A2, A3 SPK	AUX, DL, F, H, T, TIO
JR596W	Walnut	M, LL	15WJR29	AM/FM/FM Stereo/Phono/Tape	Note D2	—	—	169-556 or 169-556-01	8TK-R/P 169-506B or 169-506	A2, A3 SPK	AUX, DL, F, H, T, TIO
J635W	Walnut	M	—	Tape	—	—	—	—	8TK-P 169-536-01 or 169-536-01A	—	PL
JR638W	Walnut	M	—	Tape	—	—	—	—	8TK-R/P 169-537-01 or 169-537-01A	—	PL
JR684W	Walnut	M	8WJR56	AM/FM/FM Stereo/Tape	Note D2	—	—	—	8TK-R/P 169-507-02	A1,A2,A3 SPK	AUX, DL, F, H, T, TIO, UNI

PRODUCT FEATURES

SEE NOTES ON PAGE 6

CABINET			CHASSIS		SPEAKERS			RECORD CHANGER	OTHER FEATURES		
MODEL	COLOR	STYLE NOTE A	MODEL	TYPE	PART NUMBER	IMPED. (In Ohms)	QTY. AND SIZE (In Inches)	PART NUMBER NOTE B	TAPE PROVISION NOTE C	SPEAKER PROVISION NOTE D	MISC. NOTE E
JR684W1	Walnut	M	8WJR56	AM/FM/FM Stereo/Tape	Note D2	—	—	—	8TK-R/P 169-507	A1,A2,A3 SPK	AUX, DL, F, H, T, TIO, UNI
J900P J900P11 J900P21	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-P 169-544	—	DL, H
J900P31	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-P 169-544	A1,A2,A3, SPK	DL, H
J900P32	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-P 169-544	A1,A2,A3 SPK	DL, H
J900P34	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-P 169-521G	A1,A2,A3 SPK	DL, H
JR900P	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	—	DL, H
JR900P31	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H
JR900P32	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-541	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H
JR900P33	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-541	8TK-R/P 169-508	A1,A2,A3 SPK	DL, H
JR900P34	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-508	A1,A2,A3 SPK	DL, H
JR900P35	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-541-01	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H
JR900P36	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-541-01	8TK-R/P 169-508	A1,A2,A3 SPK	DL, H
JR901P	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	—	DL, H
J902P J902P11	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-P 169-544	—	DL, H, RS
J902P31	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-P 169-544	A1,A2,A3 SPK	DL, H, RS

PRODUCT FEATURES

SEE NOTES ON PAGE 6

CABINET			CHASSIS		SPEAKERS			RECORD CHANGER	OTHER FEATURES		
MODEL	COLOR	STYLE NOTE A	MODEL	TYPE	PART NUMBER	IMPED. (In Ohms)	QTY. AND SIZE (In Inches)	PART NUMBER NOTE B	TAPE PROVISION NOTE C	SPEAKER PROVISION NOTE D	MISC. NOTE E
J902P32	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-P 169-544	A1,A2,A3, SPK	DL, H, RS
J902P33	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-P 169-521G	A1,A2,A3 SPK	DL, H, RS
JR902P JR902P11	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	—	DL, H, RS
JR902P12	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-508	—	DL, H, RS
JR902P31	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H, RS
JR902P32	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-508	A1,A2,A3 SPK	DL, H, RS
JR902P33	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H, RS
JR902P34	Pecan	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-R/P 169-508	A1,A2,A3 SPK	DL, H, RS
J903PN J903PN11	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-P 169-544	—	DL, H, RS
J903PN31	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-P 169-544	A1,A2,A3 SPK	DL, H, RS
J903PN32	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-P 169-544	A1,A2,A3 SPK	DL, H, RS
JR903PN JR903PN11	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	—	DL, H, RS
JR903PN12	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-508	—	DL, H, RS
JR903PN31	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H, RS
JR903PN32	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-557	8TK-R/P 169-508	A1,A2,A3 SPK	DL, H, RS
JR903PN33	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-R/P 169-545	A1,A2,A3 SPK	DL, H, RS
JR903PN34	Pine	C, LL	1WJR55	AM/FM/FM Stereo/Phono/ Tape	49-1153-02 49-1094-01	16 45	2-6x9 2-3½	169-554-01	8TK-R/P 169-508	A1,A2,A3 APK	DL, H, RS

PRODUCT FEATURES
SEE NOTES ON PAGE 6

CABINET			CHASSIS		SPEAKERS			RECORD CHANGER	OTHER FEATURES		
MODEL	COLOR	STYLE NOTE A	MODEL	TYPE	PART NUMBER	IMPED. (In Ohms)	QTY. AND SIZE (In Inches)	PART NUMBER NOTE B	TAPE PROVISION NOTE C	SPEAKER PROVISION NOTE D	MISC. NOTE E
J915P	Pecan	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558 or 169-558-01	8TK-P 169-544	A1,A2,A3, SPK	A, AUX, DL, H, RS, T, TO
J915P11	Pecan	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558	8TK-P 169-544	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
J915P12	Pecan	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-561	8TK-P 169-544	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR915P	Pecan	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558 or 169-558-01	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR915P11	Pecan	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558 or 169-559	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR915P12	Pecan	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-561	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
J916M	Maple	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558	8TK-P 169-544	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
J916M11	Maple	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558	8TK-P 169-544	A1,A2,A3, SPK	A, AUX, DL, H, RS, T, TO
J916M12	Maple	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-561	8TK-P 169-544	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR916M	Maple	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR916M11	Maple	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR916M12	Maple	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-561	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR919P	Pecan	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-558 or 169-559	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR919P1	Pecan	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1261-02 49-1251-02	8 8	2-8 2-3	169-561	8TK-R/P 169-545 or 169-508	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR920AE	Antique Oak	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1217-01 49-1166-01	8 8	2-10 2-3 1/4	169-559	8TK-R/P 169-546	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR920AE1	Antique Oak	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1217-01 49-1166-01	8 8	2-10 2-3 1/4	169-560 or 169-561	8TK-R/P 169-546	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR922M	Maple	C, LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1217-01 49-1166-01	8 8	2-10 2-3 1/4	169-559	8TK-R/P 169-546	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO

PRODUCT FEATURES SEE NOTES BELOW

CABINET			CHASSIS		SPEAKERS			RECORD CHANGER	OTHER FEATURES		
MODEL	COLOR	STYLE NOTE A	MODEL	TYPE	PART NUMBER	IMPED. (In Ohms)	QTY. AND SIZE (In Inches)	PART NUMBER NOTE B	TAPE PROVISION NOTE C	SPEAKER PROVISION NOTE D	MISC. NOTE E
JR922M1	Maple	C, LL	3WJR50Z	AM/FM/FM Stereo/Phono/Tape	49-1217-01 49-1166-01	8 8	2-10 2-3½	169-560 or 169-561	8TK-R/P 169-546	A1,A2,A3 SPK	A, AUX, DL, H, RS, T, TO
JR966P	Pecan	C, LL	15WJR29	AM/FM/FM Stereo/Phono/Tape	49-1271 49-1166	8 8	2-12 2-3½	169-556-01	8TK-R/P 169-506-01A	A2,A3 SPK	A, AUX, DL, F, H, T, TIO
J1000W1	Walnut	M, SP	—	—	49-1277 49-1278	8 8	1-6½ 1-2	—	—	—	A1
J1000W2	Walnut	M, SP	—	—	49-1249 49-1251-01	8 8	1-6½ 1-3	—	—	—	A1
J2000W1	Walnut	M, SP	—	—	49-1261-02 49-1166-01	8 8	1-8 1-3½	—	—	—	A2
J2000W2	Walnut	M, SP	—	—	49-1261-02 49-1166	8 8	1-8 1-3½	—	—	—	A2
J3000W1	Walnut	M, SP	—	—	49-1270 49-1166-01	8 8	1-10 1-3½	—	—	—	A3
J9026W	Walnut	M	—	—	—	—	—	169-556-01	—	—	—
SJ2597P	Pecan	C, 2LL	3WJR50 or 3WJR50Z	AM/FM/FM Stereo/Phono/Tape/ Color Combo	49-1276 49-1166 49-1234-04	8 8 16	2-10 2-3½ 1-5	169-559	8TK-R/P 169-546	A1,A2,A3, SPK	A, AUX, DL, H, RS, T, TO
SJ2599P	Pecan	C, 2LL	15WJR29	AM/FM/FM Stereo/Phono/Tape/ Color Combo	49-1275 49-1166 49-1234-02	8 8 16	2-10 2-3½ 1-5	169-556-01	8TK-R/P 169-506-01A	A2, A3 SPK	A, AUX, DL, F, H, T, TIO

NOTES

NOTE A – CABINET STYLE:

C = Console, M = Modular, LL = Lift Lid, 2LL = Two Lift Lids, SP = Speaker System.

NOTE B – RECORD CHANGERS

Record Changers having alpha suffixes (ie. 169-511A) denote variations of internal mechanical and/or electrical components (refer to Record Changer Features charts on page 7) but otherwise are interchangeable with other alpha suffix and non-suffix versions.

NOTE C – TAPE INPUT AND OUTPUT PROVISIONS:

Factory Installed: 8 TK - Eight Track Cartridge.

Cass = Cassette, P = Play, R = Record.

TM = Top of Set Model for installation with the designated console or modular models:

Model J635W – Cartridge Tape Player.

Model J638W – Cartridge Tape Player/Recorder.

Tape Units having alpha suffixes (ie. 169-510A) denote variations of internal mechanical and/or electrical components (refer to Tape Unit Features charts on pages 8 and 9) but are otherwise interchangeable with other alpha suffix and nonsuffix versions. Units having numeric (ie. 169-506-01) or numeric/alpha (ie. 169-506-01A) suffixes may have a one way interchangeability under some conditions (refer to Product Features charts on pages 2 thru 6).

NOTE D – SPEAKER PROVISIONS:

NOTE D1: Models E9012 series, G1000W, G200W, W11, G3000W, W11, G9012W1, G9014W, G9019W, H1000W series, H2000W series

and H3000W series are 8 ohm Allegro Speaker Systems. Allegro Models in the E9014 and E9018 series were 16 ohm systems.

NOTE D2: "J" Line Modular Models may use either J1000W, J2000W, or J3000W series 8 ohm Allegro Speaker Systems (See Speaker Provisions). Use only J2000W or J3000W series systems with Models J596W, JR596W and JR966P.

A1 = Model J1000W Series Allegro 1000 Speaker System may be used.

A2 = Model J2000W Series Allegro 2000 Speaker System may be used.

A3 = Model J3000W Series Allegro 3000 Speaker System may be used.

SPK = Switch to select Internal, External or Both.

NOTE E – MISCELLANEOUS FEATURES:

A = Speaker System is Allegro.

A1 = Speaker System is Allegro 1000.

A2 = Speaker System is Allegro 2000.

A3 = Speaker System is Allegro 3000.

AUX = Auxiliary input accepts certain optional Record Changers or Tape Units listed under Notes B and C.

DL = Dial Scale Light.

F = Flywheel Tuning.

H = Headphone Jack (Stereo).

HH = Headphone Jack (Four Channel).

PL = Power Indicator Light (other than Dial Scale Light).

RS = Record Storage.

T = Tuning Meter.

TIO = Tape Input/Output.

TO = Tape Output.

UNI = Uniband Dial Scale Light.

RECORD CHANGER FEATURES SEE NOTES BELOW

Part No.	Mfg. Code	Stylus Pressure Grams	Cartridge & Stylus Note 2	45 RPM Adapter	Turntable		Function Selector	Record Size/Selector Note 3	Record Stack Capacity	Base-Plate Color	Turntable Pad Color	Pressure Arm Color	Misc. Features
					RPM Selector	Diameter Inches							
169-512A	BSR	2.5-4.0	142-185 56-638 D	S-72648	33, 45, 78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Cue Lever, Stylus Brush
169-541	VM	3.5-4.5	142-187 56-639 D-S	S-82964	16, 33, 45 78 Slide	10"	Off, On, Rej. Slide	7, 10, 12, M Manual Slide	See Note 5	Black	Black	Black and Silver	Cue Lever
169-554	BSR	3.5-4.5	142-190 56-643 D-S	S-72648	33, 45, 78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Cue Lever
169-55401	BSR	3.5-4.5	142-186 56-639 D-S	S-72648	33, 45, 78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Cue Lever
160-555	BSR	3.0-4.0	142-189 56-641 D Note 7	S-72648	33, 45, 78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Cue Lever
169-556	BSR	3.0-4.0	142-189 56-641 D Note 7	S-72648	33, 45, 78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Viscous Cue Lever
169-55601	BSR	3.0-4.0	142-189 56-641 D Note 7	S-72648	33, 45, 78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Viscous Cue Lever
169-557	VM	3.5-4.5	142-191 56-642 D-S	S-82964	16,33,45, 78 Slide	11"	Off, On, Rej. Rotary	7, 10, 12, M Manual Slide	See Note 6	Black	Black	Black and Silver	Cue Lever
169-558 169-55801	VM	3.5-4.5	142-192 56-643 D-S	S-82964	16,33,45, 78 Slide	11"	Off, On, Rej. Slide	7, 10, 12, M Manual Slide	See Note 6	Black	Black	Black and Silver	Cue Lever
169-559	VM	3.5-4.5	142-192 56-643 D-S	S-82964	16,33,45, 78 Slide	11"	Off, On, Rej. Slide	7, 10, 12, M Manual Slide	See Note 6	Black	Black	Black and Silver	Cue Lever
169-560	BSR	3.5-4.5	142-190 56-643 D-S	S-72648	33,45,78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Viscous Cue Lever
169-561	BSR	3.5-4.5	142-190 56-643 D-S	S-72648	33,45,78 Slide	11"	Stop, Start, Auto Slide	7, 10, 12 Manual Slide	See Note 5	Black	Black	Black	Cue Lever

- NOTE:**
1. All record changers have 120VAC 60Hz motors.
 2. D = Diamond, S = Manufactured Sapphire.
 3. When Size Control is in "M", Tone Arm must be placed on record manually.
 4. Stylus 56-632 and 56-638 are dual radius diamond stylus with universal truncated tip for playing both LP (33 and 45 RPM) and 78 RPM records.
 5. Record changers will play as many as five (flat and unwarped) records in 12-inch, 10-inch or 7-inch size. Sizes cannot be intermixed.
 6. Record changers will play as many as six (flat and unwarped) records in 12-inch, 10-inch or 7-inch size. Sizes cannot be intermixed.
 7. Cartridge 142-189 is of the moving magnet (magnetic) type. Stylus 56-641 has a 0.6 mil spherical tip. 56-641-01 is an optional 2.5 mil stylus for playing 78 RPM records.

TAPE UNIT FEATURES SEE NOTES ON PAGE 9

Part No.	Mfg. Code	8-Track/ Cassette	Channels		ALC/Full Feature Note A	Motor Note B	Auto Stop Note C	Use Note D	Misc. Features Note E
			Play	Record					
169-458	AMI/MC	8-Track	2	—	—	AC	—	M	A1, C1
169-463	Maruco	Cassette	2	2	ALC	DC/E	Tape	M	A1,B,C1,E,FF, I, P2
169-464	AMI/MC	8-Track	2	—	—	AC	—	C	A1, C1
169-469	AMI/MC	8-Track	2	2	Full	DC/M	Full	M	A1,C1,FF,I, M, P1, R
169-471	AMI/MC	8-Track	2/4	—	—	AC	—	M	A1,C1,Q
169-472	AMI/MC	8-Track	2	2	Full	DC/M	Full	M	A1,C1,FF,I, M, P1, R
169-473	AMI/MC	8-Track	2	—	—	AC	—	M	A1, C1
169-485	AMI/MF	8-Track	2/4	—	—	AC	—	C	A1, C1, Q
169-486	AMI/MF	8-Track	2	—	—	AC	—	C	A1, C1
169-487	AMI/MC	8-Track	2	2	Full	DC/M	Full	C	A1,C1,FF,I, M, P1, R
169-489	AMI/MF	8-Track	2	—	—	AC	—	M	A1, C1
169-490	AMI/MF	8-Track	2	—	—	AC	—	C	A1, C1
169-490A	AMI/MF/Z	8-Track	2	—	—	AC	—	C	A1, C1
169-490B	AMI/MF/Z	8-Track	2	—	—	AC	—	C	A1, C1
169-491	AMI/MF	8-Track	2/4	—	—	AC	—	M	A1, C1, Q
169-492	AMI/MF	8-Track	2	—	—	AC	—	M	A1, C1
169-494	JVC	Cassette	2	2	ALC	DC/M	Tape	M	A1,B,C1,E,FF, I, P2
169-494-01	JVC	Cassette	2	2	ALC	DC/M	Tape	M	A1,B,C1,E,FF, I, P2
169-505	AMI/MF	8-Track	2	—	—	AC	—	W	A2, C1
169-505A	AMI/MF/Z	8-Track	2	—	—	AC	—	W	A2, C1
169-505B	AMI/ML	8-Track	2	—	—	DC/M	—	W	A2, C1
169-505D	AMI/EE	8-Track	2	—	—	AC	—	W	A2, C1
169-505E	AMI/MF/Z	8-Track	2	—	—	AC	—	W	A2, C1
169-505F	AMI/MF/Z	8-Track	2	—	—	AC	—	W	A2, C1
169-505G	AMI/MF/Z	8-Track	2	—	—	AC	—	W	A2, C1
169-506	AMI/MC	8-Track	2	2	Full	DC/M	Full	W	A2,C1,FF,I, M, P1, R
169-506B	AMI/ML	8-Track	2	2	Full	DC/M	Full	W	A2,C1,FF,I, M, P2, R
169-506C	AMI/MC/Z	8-Track	2	2	Full	DC/M	Full	W	A1,C1,FF,I, M, P1, R
169-506D	AMI/MC/Z	8-Track	2	2	Full	DC/M	Full	W	A2,C1,FF,I, M, P1, R
169-506-01	AMI/MC	8-Track	2	2	Full	DC/M	Full	C	A2,C1,FF,I, M, P1, R
169-506-01A	AMI/ML	8-Track	2	2	Full	DC/M	Full	C	A2,C1,FF,I, M, P2, R
169-506-01B	AMI/MC	8-Track	2	2	Full	DC/M	Full	C	A2,C1,FF,I, M, P1, R
169-507	AMI/MC	8-Track	2	2	Full	DC/M	Full	M	A2,C1,FF,I, M, P1, R
169-507A	AMI/MC/Z	8-Track	2	2	Full	DC/M	Full	M	A2,C1,FF,I, M, P1, R
169-507-02	AMI/ML	8-Track	2	2	Full	DC/M	Full	M	A2,C1,FF,I, M, P2, R
169-508	AMI/MF	8-Track	2	2	ALC	AC	Four	C	A2,C1,I,R
169-508B	AMI/ML	8-Track	2	2	ALC	DC/M	Four	C	A2,C1,I,R

TAPE UNIT FEATURES

SEE NOTES ON PAGE

Part No.	Mfg. Code	8-Track/ Cassette	Channels		ALC/Full Feature Note A	Motor Note B	Auto Stop Note C	Use Note D	Misc. Features Note E
			Play	Record					
169-508-01B	AMI/ML/Z	8-Track	2	2	ALC	DC/M	Four	M	A2,C1,I,R
169-509	AMI/MF	8-Track	2	2	ALC	DC/M	Four	M	A2,C1,I,R
169-509B	AMI/ML	8-Track	2	2	ALC	DC/M	Four	M	A2,C1,I,R
169-510	AMI/MF	8-Track	2	—	—	AC	—	M	A2,C1
169-510A	AMI/MC/Z	8-Track	2	—	—	AC	—	M	A2,C1
169-510B	AMI/MC/Z	8-Track	2	—	—	AC	—	M	A2,C1
169-510C	AMI/ML	8-Track	2	—	—	DC/M	—	M	A2,C1
169-510E	AMI/EE	8-Track	2	—	—	AC	—	M	A2,C1
169-510F	AMI/MF/Z	8-Track	2	—	—	AC	—	M	A2,C1
169-510G	AMI/MF/Z	8-Track	2	—	—	AC	—	M	A2,C1
169-518	AMI/MF	8-Track	2/4	—	—	AC	—	M	A2,C1,Q
169-519	JVC	Cassette	2	2	ALC	DC/M	Tape	M	A2,B,C1,E,FF, I, P2
169-520	AMI/MF	8-Track	2	—	—	AC	—	M	A2, C1
169-520A	AMI/ML	8-Track	2	—	—	DC/M	—	M	A2, C1
169-520C	AMI/EE	8-Track	2	—	—	AC	—	M	A2, C1
169-520D	AMI/MF/Z	8-Track	2	—	—	AC	—	M	A2, C1
169-521	AMI/MF	8-Track	2	—	—	AC	—	C	A2, C1
169-521A	AMI/MF/Z	8-Track	2	—	—	AC	—	C	A2, C1
169-521B	AMI/ML	8-Track	2	—	—	DC/M	—	C	A2, C1
169-521D	AMI/EE	8-Track	2	—	—	AC	—	C	A2, C1
169-521E	AMI/MF/Z	8-Track	2	—	—	AC	—	C	A2, C1
169-521F	AMI/MF/Z	8-Track	2	—	—	AC	—	C	A2, C1
169-521G	AMI/MF/Z	8-Track	2	—	—	AC	—	C	A2, C1
169-522	AMI/MF	8-Track	2/4	—	—	AC	—	C	A2, C1, Q
169-523	AMI/MC	8-Track	2	2	Full	DC/M	Full	C	A2,C1,FF,I, M, P1, R
169-536	AMI/ML	8-Track	2	—	—	DC/M	—	C	A2, C2
169-536-01	AMI/ML	8-Track	2	—	—	DC/M	—	MA	A1, C1
169-536-01A	AMI/ML/Z	8-Track	2	—	—	DC/M	—	MA	A1, C1
169-537	AMI/ML	8-Track	2	2	ALC	DC/M	Four	C	A2, C2, I, R
169-537-01	AMI/ML	8-Track	2	2	ALC	DC/M	Four	MA	A1, C1, I, R
169-537-01A	AMI/ML/Z	8-Track	2	2	ALC	DC/M	Four	MA	A1, C1
169-539	AMI/CA	Cassette	2	2	ALC	DC/E	Tape All	M	A2,C1,E,FF, I, P2, RL, T, TB, TC, TE
169-543	AMI/CW	Cassette	2	2	ALC	DC/E	Tape All	M	A3, C3, E, FF, I, P2, RL, TC
169-544	AMI/ML	8-Track	2	—	—	DC/M	—	M,C	A2, C3
169-545	AMI/ML	8-Track	2	2	ALC	DC/M	Four	C	A2, C3, I, R
169-546	AMI/ML	8-Track	2	2	ALC	DC/M	Four	M,C	A2, C3, FF, I, P2, R

NOTES

NOTE A — RECORD

ALC = Automatic Level Control

Full = Full Feature with Record Level Controls and Meters.

NOTE B — MOTOR

E = Electronic Governor

M = Mechanical Governor

AC Motors require conversion kit if used on 50Hz.

NOTE C — AUTO STOP

Full = Stops after each program, fourth program or runs continuously (in both Play and Record modes). Selected by three position slide control.

Four = Stops after fourth program in Record only.

Tape = Tape tension sensor at end of tape in Play and Record only.

Tape All = Stops at end of tape in Play/Record/Fast Forward/Rewind modes.

NOTE D — USED IN

C = Console

M = Modular

MA = Modular Accessory

W = Wedge Modular

NOTE E — MISC. FEATURES

A1 = Parallel Blade AC Connector.

A2 = Molex Type AC Connector.

A3 = Hard Wire AC Connector.

B = Bias Frequency Switch.

C1 = RCA Type Audio Connector.

C2 = Spade Lug Audio Connector.

C3 = Hard Wire Audio Connector.

E = Eject

FF = Fast Forward Button (Push-Push  type).

I = Interlocked Record Button.

M = Record Level Meter (Illuminated).

P1 = Pause Button (Push In, Slide Left to Lock).

P2 = Pause Button (Push-Push).

Q = Automatic 2/4 Channel Switching, with mode indicator.

R = Ready Light or Auto Stop Light.

RL = Record Light.

T = Tape Run Light.

TB = Tape Bias Switch (C_rO₂ / Normal )

TC = Tape Counter.

TE = Tape Equalization Switch (C_rO₂ / Normal)

TECHNICAL APPLICATIONS

TABLE A – ALLEGRO SPEAKER SYSTEM MODELS		
IMPEDANCE SERIES	8 OHM	16 OHM
Allegro 1000	E9012W, E9012W1, G1000W, G9012W1, H1000W, H1000W1, H1000W2, H1000W3, J1000W1, J1000W2	—
Allegro 2000	G2000W, G2000W11, G9014W, H2000W, H2000W3, J2000W1, J2000W2	E9014W, E9014W1, E9014X, E9014X1
Allegro 3000	G3000W, G3000W11, G9018W, H3000W, H3000W3, J3000W1	E9018W, E9018W1, E9018X1
Allegro	G9019W	—

SERVICE PROCEDURES FOR "CAPTIVATED BACK" ALLEGRO SPEAKER SYSTEMS (MODELS H1000W2, H1000W3, H2000W3, H3000W3, J1000W1, J1000W2, J2000W1, J2000W, J3000W1)

Models listed above have "captivated backs and require a service technique that is different from that used with prior speaker enclosures having removable backs. To gain access to the inside of these "captivated back" enclosures it is necessary to cut-out a portion of the existing back, make the required repairs (replace a speaker, etc.) and then install a replacement back.

Proceed as follows:

1. Place speaker enclosure on a firm work surface protected by felt or similar non-abrasive material. It may be desirable to construct a padded framework to hold the speaker enclosure during the following steps.
CAUTION: To protect the cabinet and grille from damage position the enclosure so the grille and Allegro port (which protrude in front of the cabinet) will not touch any surface in the work area.
CAUTION: Do not permit enclosure to slide while performing these steps, as this may scratch or otherwise mar the cabinet's finish.
2. Draw four (4) straight lines on existing cabinet back as illustrated (by dash lines) in Figure 1. The lines must be approximately 3" from, and parallel with, the outer edges of side, top and bottom panels.
3. Referring to Figure 2, cut along the four (4) lines marked in step 2, using a sabre saw or router.
CAUTION: All holes required to start cut, and the cut itself, must be made to side of line nearest the center of cabinet back, so as to avoid possible damage to portion of cabinet back that remains in cabinet. Control depth of cut to avoid cutting either speaker wire or acoustic pads inside enclosure (back is approximately 3/8" thick).

TABLE B – SPEAKER ENCLOSURE SIZE			
MODEL LINE ALLEGRO SERIES	"G"	"H"	"J"
1000	16-1/2" h, 10-1/2" w, 7-1/2" d	18" h, 10-1/2" w, 7-1/2" d	20-1/2" h, 13-1/2" w, 7-1/4" d
2000	18-5/8" h, 12-3/8" w, 7-7/8" d	20-5/8" h, 13" w, 7-7/8" d	22-1/2" h, 14-1/2" w, 8-5/8" d
3000	22-3/4" h, 14-1/4" w, 8-7/8" d	24-3/4" h, 15-5/8" w, 10" d	24-3/4" h, 15-5/8" w, 10" d

4. Remove and discard cut-out portion of back.

5. Acoustic material might be stapled to inside of some enclosures. If this material must be removed, first remove staples (if used) being certain loose staples do not lodge inside enclosure. Acoustic material must be replaced in same location after completing repairs (a "U" shape with bottom edge near inside bottom of cabinet).

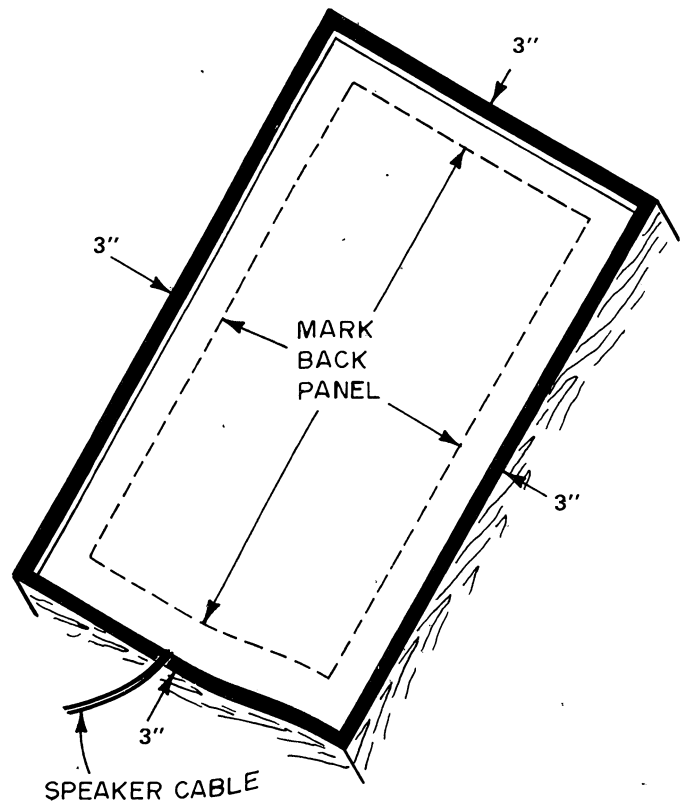


FIGURE 1 – MARKING BACK PANEL

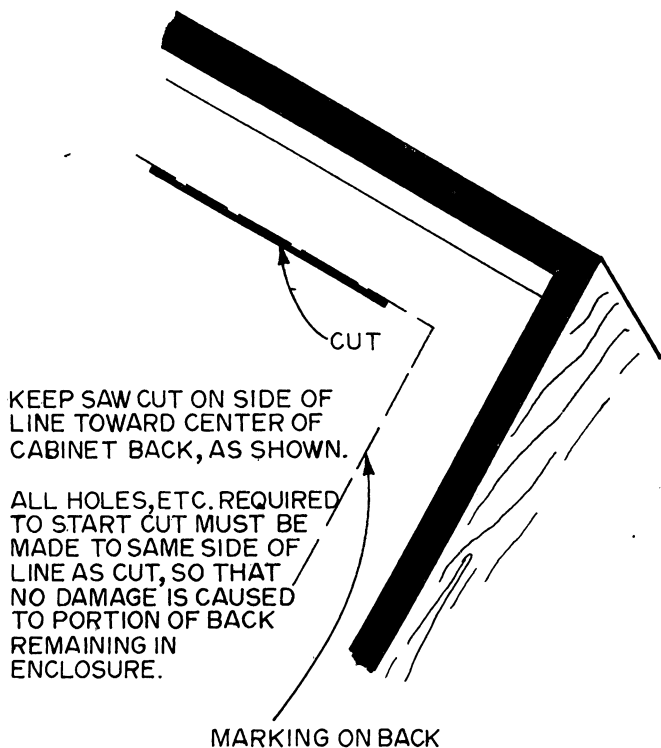


FIGURE 2 – AREA OF CUT

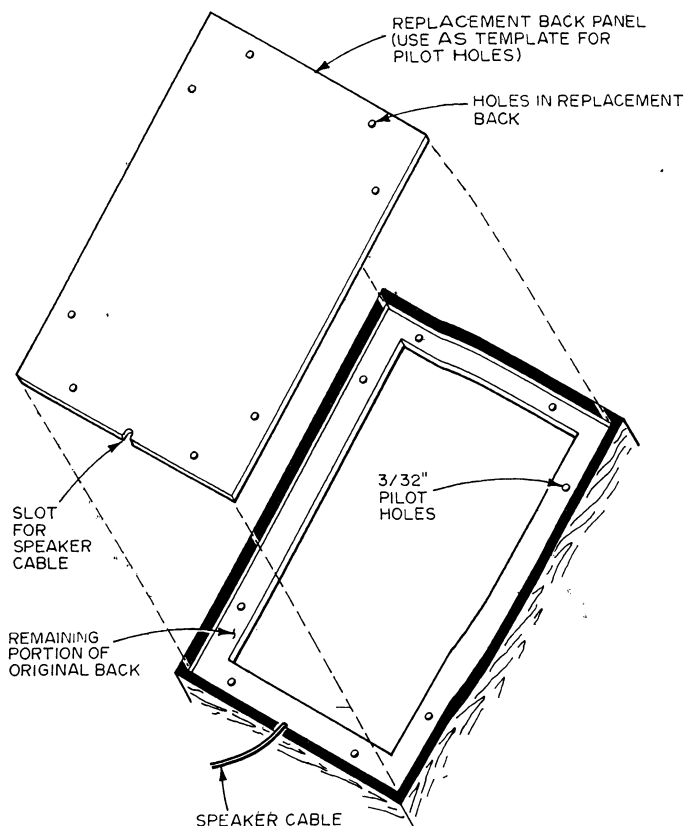


FIGURE 3 – PILOT HOLES

6. Repair (replace speakers, etc.) as needed.
7. Position replacement back panel on that portion of back still remaining (See Figure 3).
NOTE: Be certain speaker cable is fed out through slot provided at bottom edge of replacement back.
8. Replacement back has predrilled holes.
9. Using replacement back as a template, drill holes in portion of remaining back using 3/32" bit. These will be pilot holes for screws that hold replacement back.
10. Remove back and clean all chips, shavings, dust or other foreign material from enclosure.
11. Apply a strip of tape provided, to the surface of the back, remaining in the enclosure, against which the replacement back will rest (See shaded area in Figure 4). This tape *must* be used to prevent air leaks.
12. Position replacement back on portion of back remaining in enclosure.
CAUTION: Be certain speaker cable is fed out through slot provided at bottom edge of replacement back.
13. Insert screws provided through the pre-drilled holes in the replacement back. Tighten the screws so the back is firmly secured to the portion of the back remaining in the enclosure (See Figure 5).

14. Test completed unit.

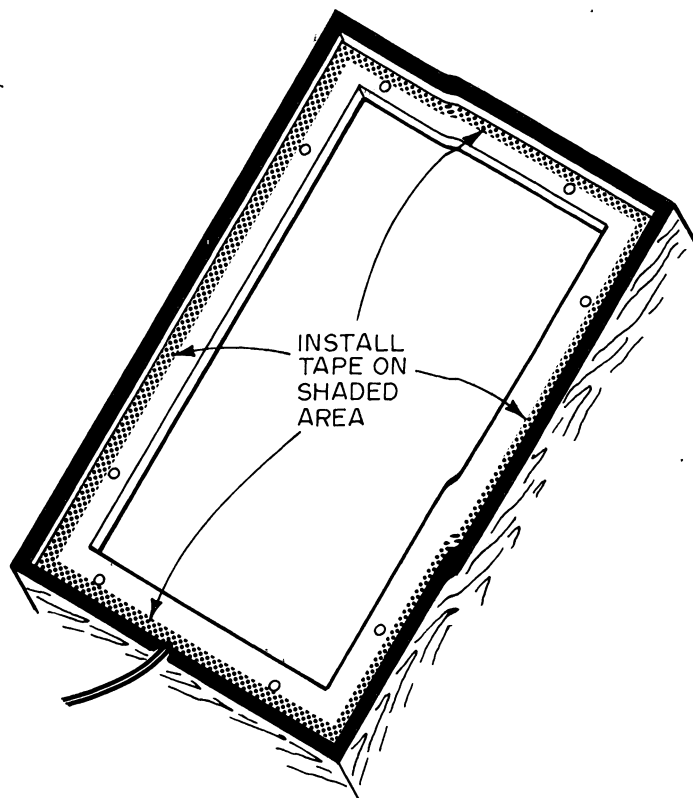


FIGURE 4 – INSTALLING TAPE

POSITION REPLACEMENT BACK PANEL ON REMAINING PORTION OF THE ORIGINAL BACK AND SECURE WITH 7/8" PHILLIPS FLAT HEAD SCREWS THROUGH EACH PREDRILLED HOLES IN REPLACEMENT BACK PANEL

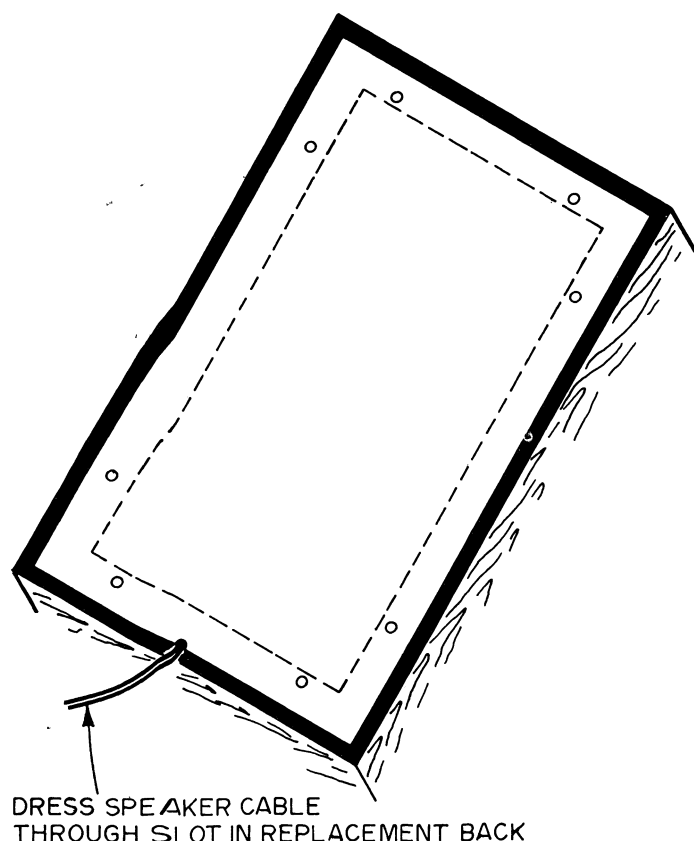


FIGURE 5 – SECURING NEW PANEL

CABINET REPAIR TIPS

When servicing these units (or for that matter most speaker enclosures) several precautions must be taken:

- When removing the back, handle the acoustical pads carefully (they may tear easily).
- Speakers (and other components) must be securely fastened to prevent air leaks, and loose components can result in rattles. Air leaks and rattles can result in a deterioration of performance.
- When replacing the back, be certain that the acoustic pads don't obstruct the port.
- All screws holding the back must be secured, by using a sufficient amount of torque, in order to prevent air leaks.

CABINET BACK REPAIR KITS

Repair kits for "H" and "J" Line Allegro models using "captivated" backs are listed in Table C.

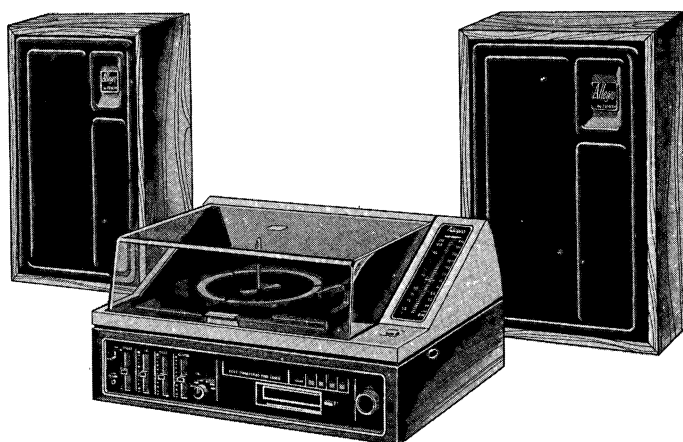
NOTE: "J" Line kits are not interchangeable with "H" Line kits.

TABLE C – ALLEGRO BACK REPAIR KITS	
KIT PART NO.	ALLEGRO MODEL NO.
802-31	H1000W2, H1000W3
802-32	H2000W3
802-33	H3000W3
802-34	J1000W1, J1000W2
802-35	J2000W1
802-36	J3000W1

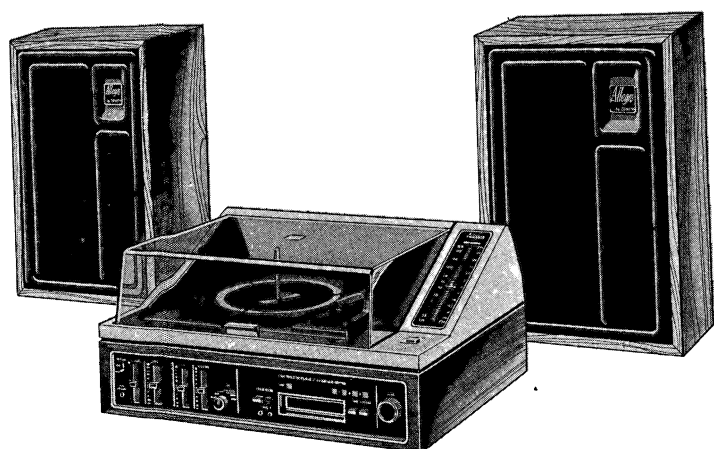
NOTES



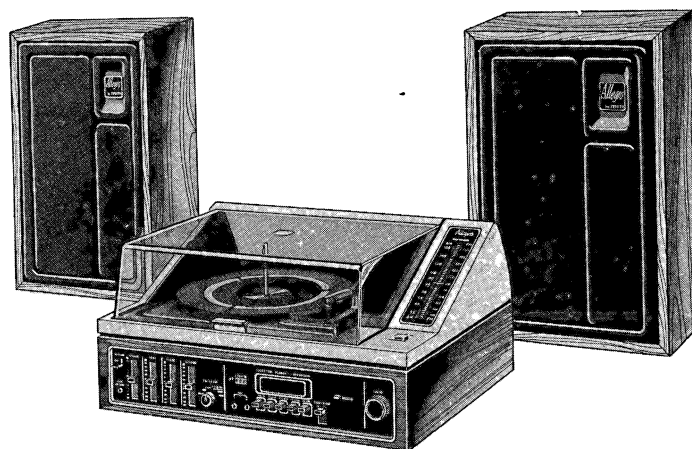
J584W



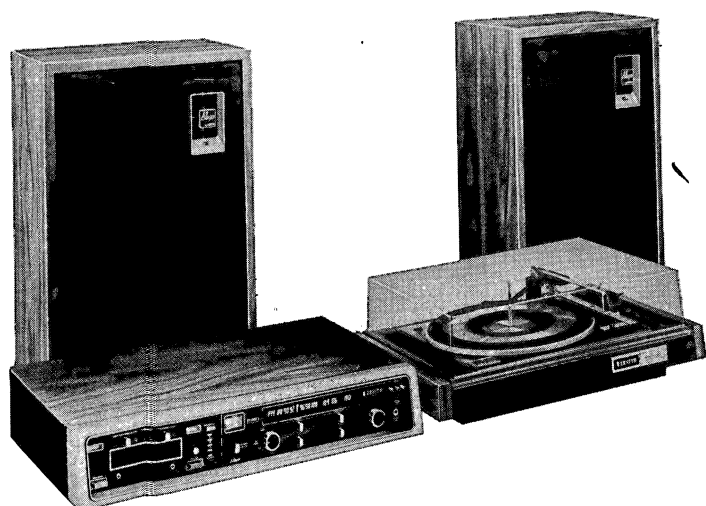
J587W



JR587W



JR588W



JR684W & J9026W

NOTE — MODULAR MODELS
ARE SHOWN WITH OPTIONAL
ALLEGRO SPEAKER SYSTEMS.

REPRESENTATIVE MODEL ILLUSTRATION



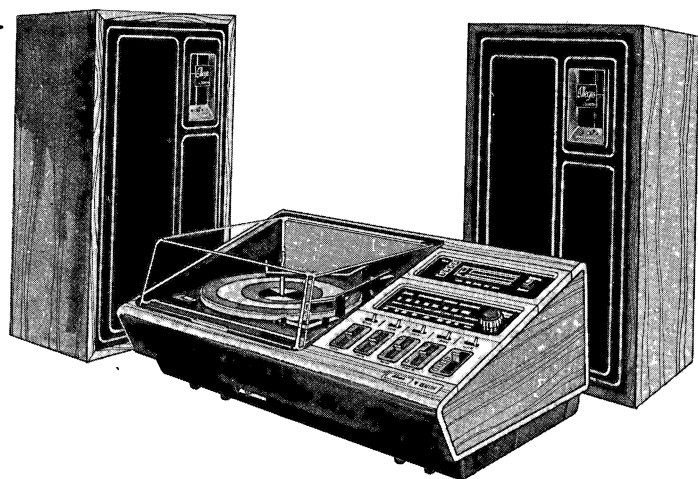
JR590W



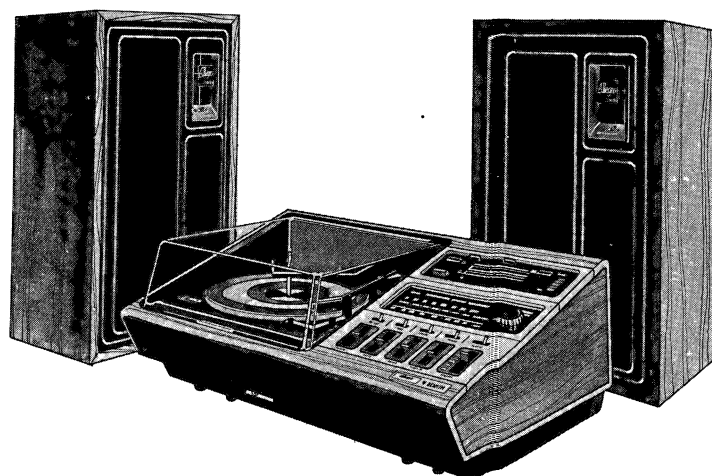
J590W



JR591W



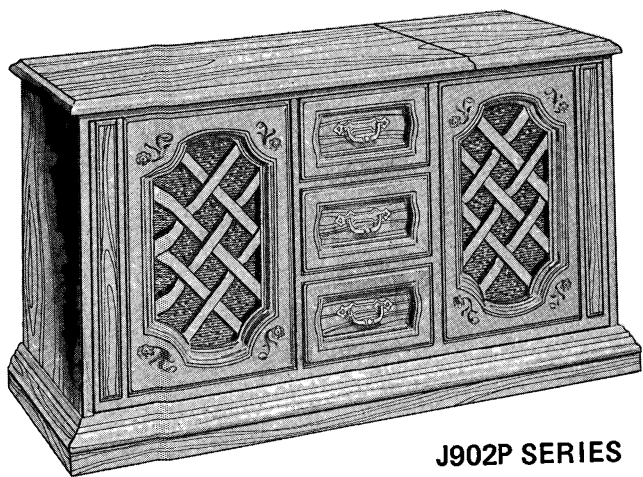
J596W



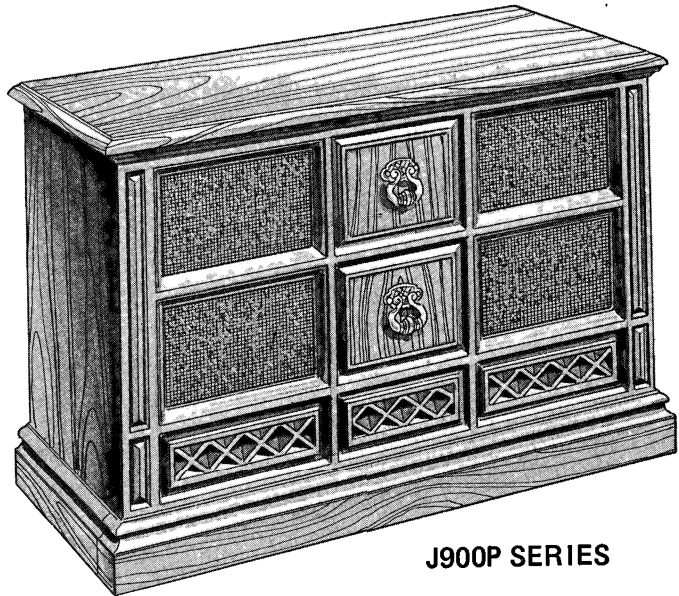
JR596W

NOTE - MODULAR MODELS
ARE SHOWN WITH OPTIONAL
ALLEGRO SPEAKER SYSTEMS.

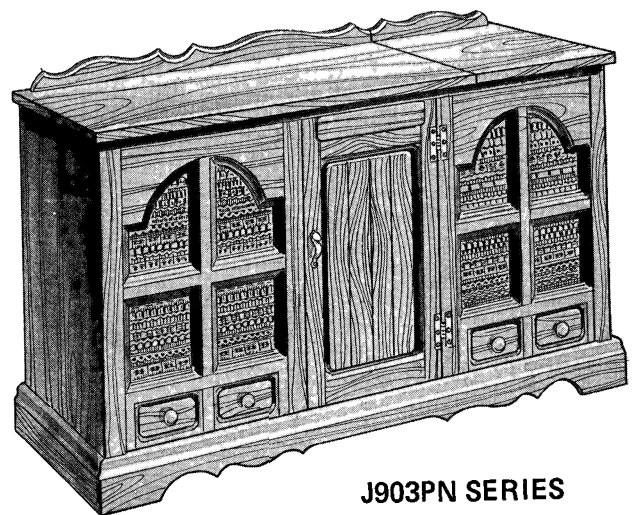
REPRESENTATIVE MODEL ILLUSTRATION



J902P SERIES

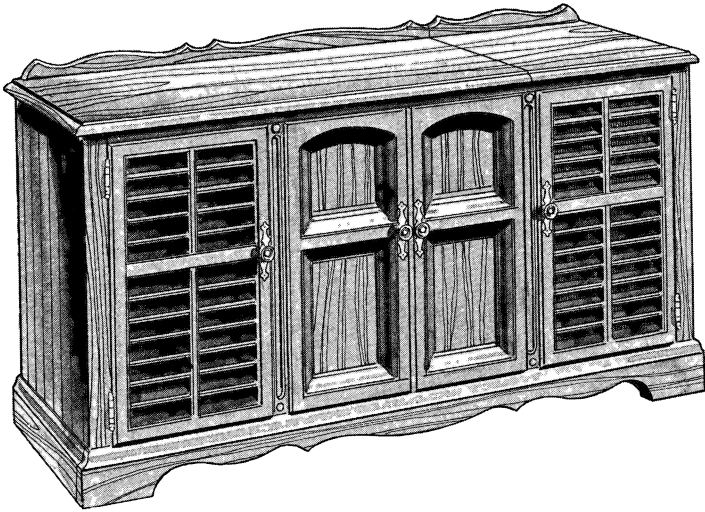


J900P SERIES

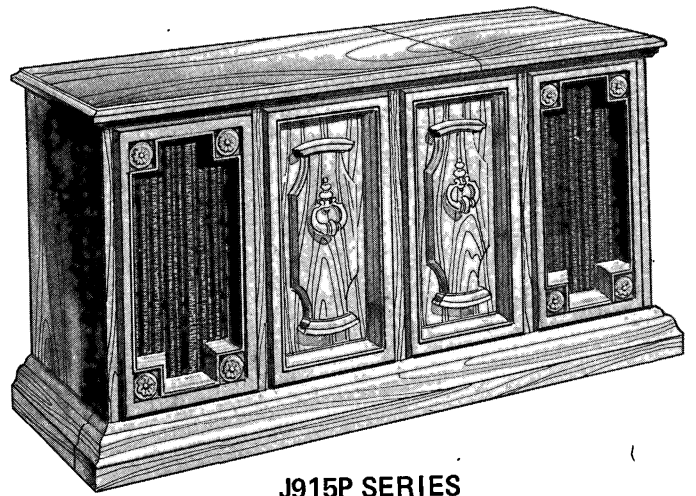


J903PN SERIES

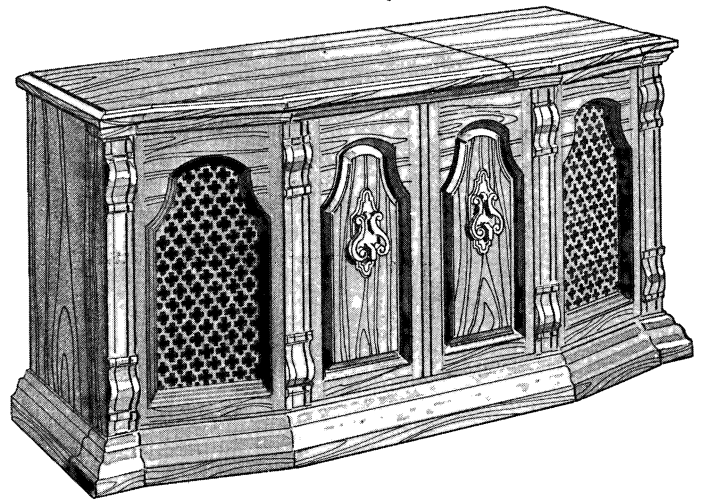
REPRESENTATIVE MODEL ILLUSTRATIONS



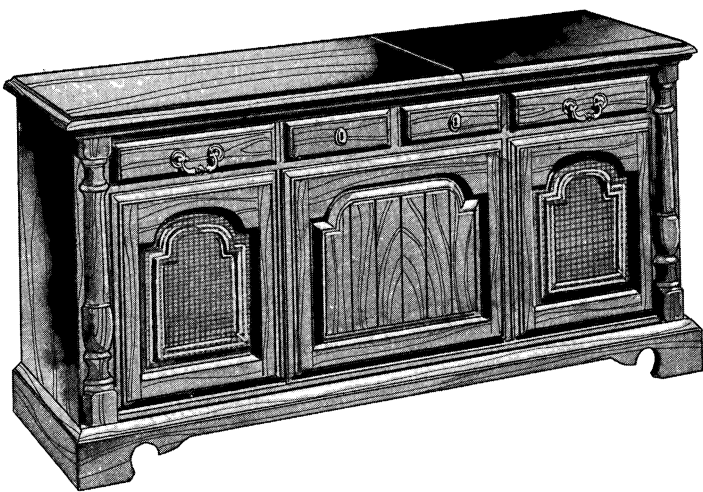
J916M SERIES



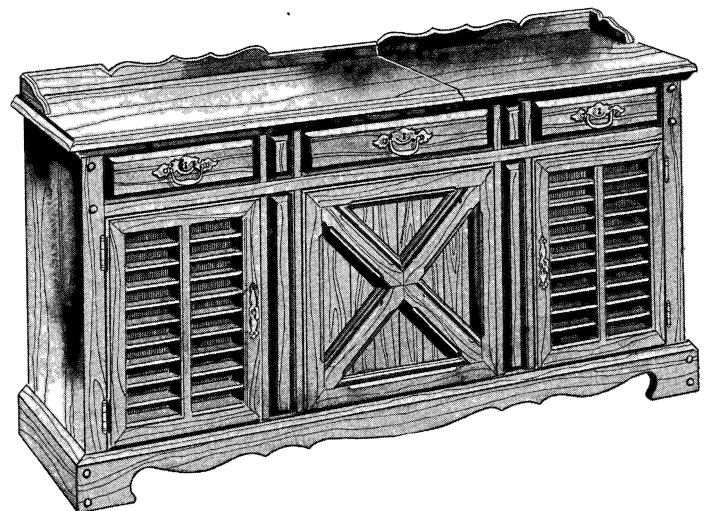
J915P SERIES



JR919P, P1

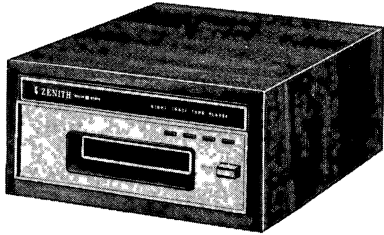


JR920AE, AE1

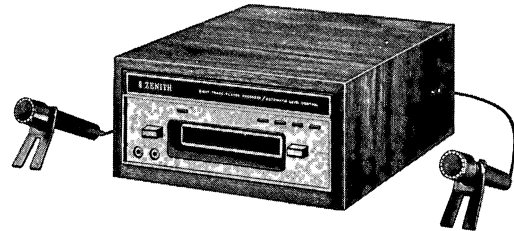


JR922M, M1

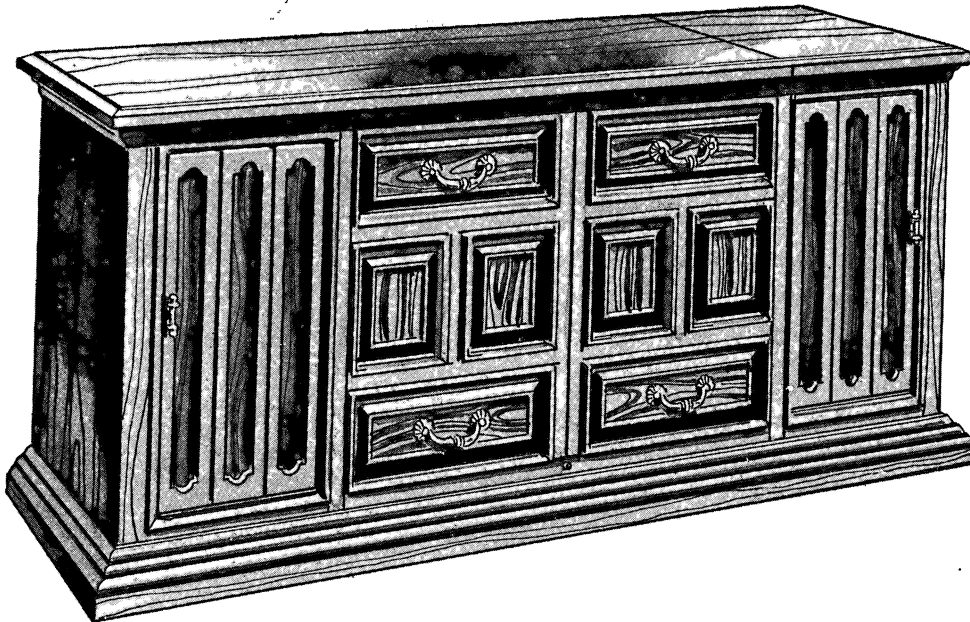
REPRESENTATIVE MODEL ILLUSTRATIONS



J635W



JR638W



JR966P

REPRESENTATIVE MODEL ILLUSTRATIONS

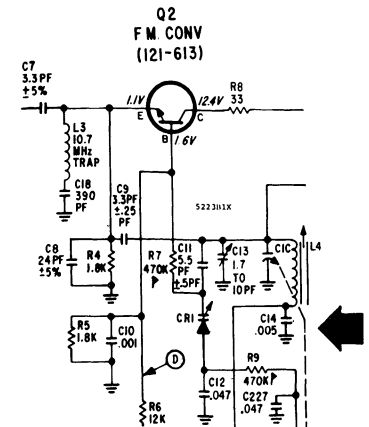
NOTES

REVISIONS

Revisions to information previously published in "HF" series service manuals is shown in the following charts. Each chart heading will list Chassis and/or Model identification and reference to the appropriate Service Manual. Information will normally consist of: schematic reference number (i.e. C304), action taken (omit, add, or alternate useage), part number and description of components, and a partial schematic of the circuit or other appropriate drawing.

CHASSIS 1WJR55			1WJR55 CHASSIS	
MODELS J900P, J900P11, J900P21, J900P31, J900P32, J900P34, JR900P, JR900P31, JR900P32, JR900P33, JR900P34, JR900P35, JR900P36, JR901P, J902P, J902P11, J902P31, J902P32, J902P33, JR902P, JR902P11, JR902P12, JR902P31, JR902P32, JR902P33, JR902P34, J903PN, J903PN11, J903PN31, J903PN32, JR903PN, JR903PN11, JR903PN12, JR903PN31, JR903PN32, JR903PN33, JR903PN34.				
COMPONENT CHANGES			REFER TO HF33	DRAWING CHANGES
				(5192-, 5193D 1, C2, D3)
—	NOTE	—	Alternate Speaker Circuits	Revised Drawing on Page 24 of this manual.
—	NOTE	—	Circuit Board Drawing revised at: C1, C6, C12, C17, C103, C457, L203, L204, Q401, Q451, R4, R310, R405, T103, T201. Added Voltages and Lead Identification.	Revised Drawing on Page 25 of this manual.

CHASSIS 3WJR50, 3WJR50Z			3WJR50, 3WJR50Z CHASSIS	
MODELS J915P, J915P11, J915P12, JR915P, JR915P11, JR915P12, J916M, J916M11, J916M12, JR916M, JR916M11, JR916M12, JR919P, JR919P1, JR920AE, JR920AE1, JR922M, JR922M1, SJ2597P.				
COMPONENT CHANGES			REFER TO HF33	DRAWING CHANGES
				(5194-1, -2, 5195B1, B2, A3, A4)
C6	OMIT ADD	22-7615-04 22-2729	4700 PF +80—20% 50V 1000 PF +50—30% 25V	
SW2	OMIT ADD	85-1506 85-1506-01	FM AFC Switch FM AFC Switch	
SW4	OMIT ADD	85-1508 85-1508-01	Speaker Switch Speaker Switch	
SW5	OMIT ADD	85-1507 85-1507-01	Hi Cut Switch Hi Cut Switch	
—	NOTE	—	RF/IF/MPX Circuit Board Drawing revised at: C1, C6, C14, C17, C18, C109, C208, C302, CR301, IC101, IC201, IC301, L203, Q1, R101, R109, R211, R301, R506, T103, T201, Voltages and Lead Identification.	Revised Drawing on Page 26 of this manual.
—	NOTE	—	Audio Circuit Board Drawing revised at: C422, C468, Q301, Q401, Q451, R432, R482, SW5 and Lead Identifications.	Revised Drawing on Page 26 of this manual.

CHASSIS 3WJR51, 3WJR51Z				3WJR51, 3WJR51Z CHASSIS
MODELS J584W, J584W1, J584W2, J584W3				
COMPONENT CHANGES		REFER TO HF33		DRAWING CHANGES
C14	OMIT ADD	22-7615-04 22-3080	4700 PF +80-20% 50V 5000 PF +50-30% 25V	(5211A, 5210C1, C2)
—	NOTE	—	Chassis Layout Drawing revised at: Speaker Jack Assembly.	Revised Drawing on Page 27 of this manual.
CHASSIS 3WJR52, 3WJR52Z				3WJR52, 3WJR52Z CHASSIS
MODELS J587W, JR587W, JR588W				
COMPONENT CHANGES		REFER TO HF33		DRAWING CHANGES
—	NOTE	—	RF/IF/MPX Circuit Board Drawing revised at: C1, C6, C14, C17, C18, C109, C208, C302, CR301, IC101, IC201, IC301, L203, Q1, R101, R109, R210, R301, T103, T201, Voltages and Lead Identification.	(5196-1, -2, 5197A1, A2) Revised Drawing on Page 18 of this manual.
—	NOTE	—	Audio Circuit Board Drawing revised at: C422, C468, Q301, Q401, Q451, SW2 and Lead Identification.	Revised Drawing on Page 28 of this manual.
CHASSIS 8WJR56				8WJR56 CHASSIS
MODELS JR684W, JR684W1				
COMPONENT CHANGES		REFER TO HF33		DRAWING CHANGES
C14	OMIT ADD	22-7615-04 22-3080	4700 PF +80-20% 50V 5000 PF +50-30% 25V	(5222-, 5223B1, B2)
C407/ C457	OMIT ADD	22-5964 22-7548	.27 MF 10% Mylar 50V .15 MF 10% Mylar 50V	
C707/ C757	OMIT ADD	22-5761 22-3412	470 PF 10% 1000V 820 PF 10% 500V	
C420	NOTE	—	Change Legend from C419 to C420.	
—	NOTE	—	RF/IF/MPX/AUDIO Circuit Board revised at: C12, C13, C14, C407, C457, C473, IC301, T101, T205 and Lead Identification.	

MODELS J590W, JR590W, JR590W1, JR591W

COMPONENT CHANGES

REFER TO HF33

DRAWING CHANGES

(5226-, 5224B1, B2)

C14 OMIT 22-7615-04 4700 PF +80-20% 50V
 ADD 22-3080 5000 PF +50-30% 25V

C407/ OMIT 22-5964 .27 MF 10% Mylar 50V
 C457 ADD 22-7548 .15 MF 10% Mylar 50V

C707/ OMIT 22-5761 470 PF 10% 1000V
 C757 ADD 22-3412 820 PF 10% 500V

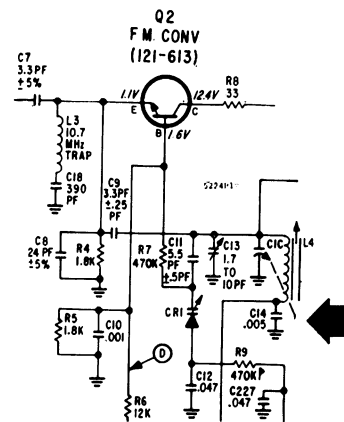
R751 NOTE 63-9922-20 100K Ohm 10% 1/4W

NOTE

RF/IF/MPX/AUDIO Circuit Board
 Drawing revised at: C14, C407,
 C457, Q456, SWX1, and SW5.

NOTE

PREAMP Circuit Board Drawing
 revised at: R711 and Voltages
 added.



MODELS J596W, JR596W, JR966P, SJ2599P

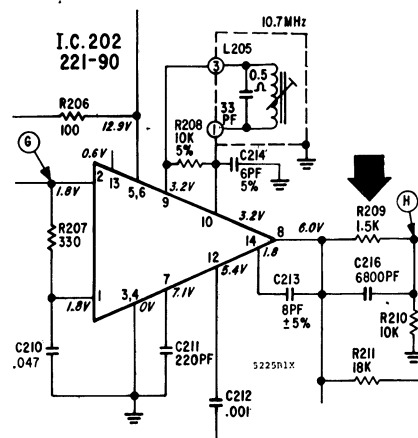
COMPONENT CHANGES

REFER TO HF33

DRAWING CHANGES

R213	OMIT ADD	63-10524-03 63-10651-02	2.5K FM Meter Adjust 2.5K FM Meter Adjust
R308	OMIT ADD	63-10524-01 63-10651-04	10K Mute Adjust 10K Mute Adjust
R317	OMIT ADD	63-10524 63-10651-03	5K Phase Locked Loop Adjust 5K Phase Locked Loop Adjust
SW1	OMIT ADD	85-1501 85-1474	Bandswitch Bandswitch
R209	OMIT ALT ADD ALT	63-9921-78 63-10183-78 63-9921-76 63-10183-76	1.8K 5% ¼W 1.8K 10% ¼W 1.5K 5% ¼W 1.5K 10% ¼W
TX502	ADD	95-3393	Choke (SK2599P only)
CX505/ CX506	NOTE	22-7431-07	.01 MF Disc 150VAC
C227	NOTE	—	Add Disc to description
—	NOTE	—	Red/Yellow lead at P3 Male Lead View is 53V.
—	NOTE	—	RF/IF/MPX Circuit Board Drawing revised at: C15, C208, C221, C473, IC201, IC202, IC301, R209, R237, R302, T205.
—	NOTE	—	POWER SUPPLY Circuit Board Drawing revised at: CX505, CX506 and DS505.
—	NOTE	—	PREAMP Circuit Board Drawing revised at: R711 and Voltages.

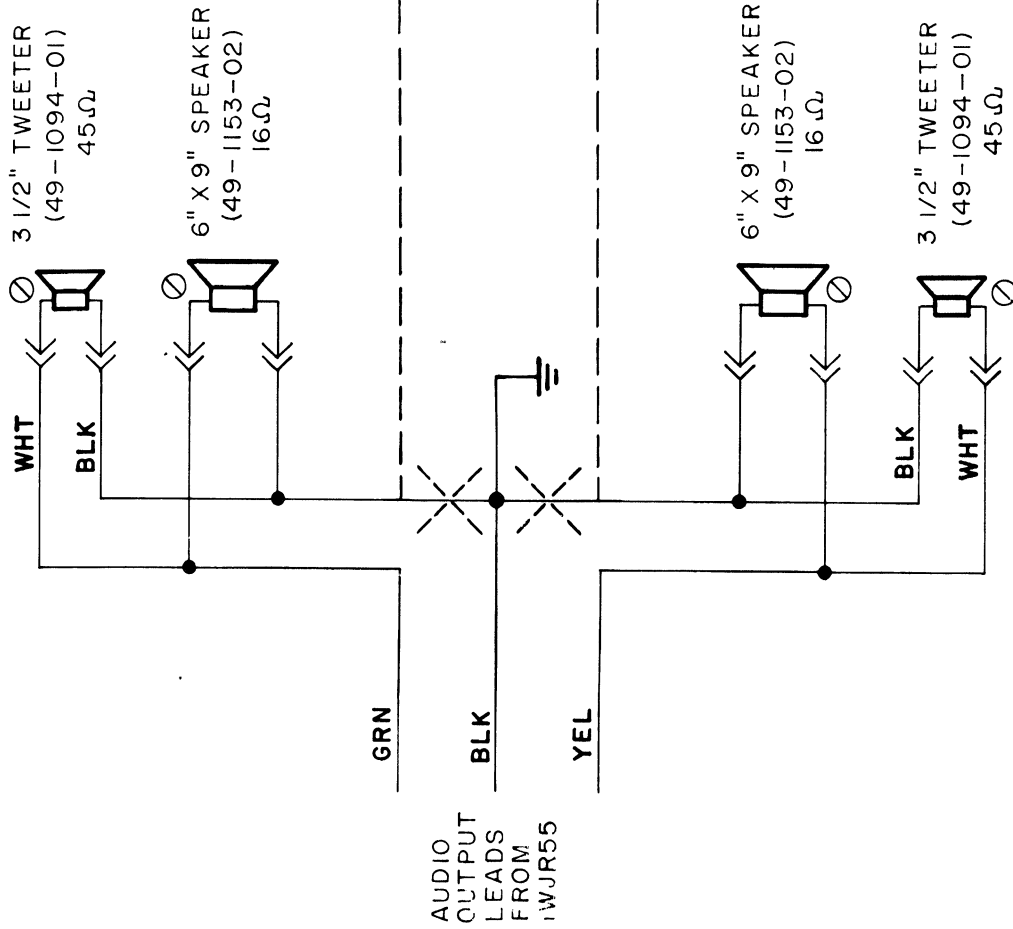
(5232-, 5225B1, B2, A3, A4)



MODELS: J900P, P11, P21, JR900P, JR901P

J902P, P11, JR902P, P11, P12

J903PN, PN11, JR903PN, PN11, PN12



MODELS: J900P31, P32, P34

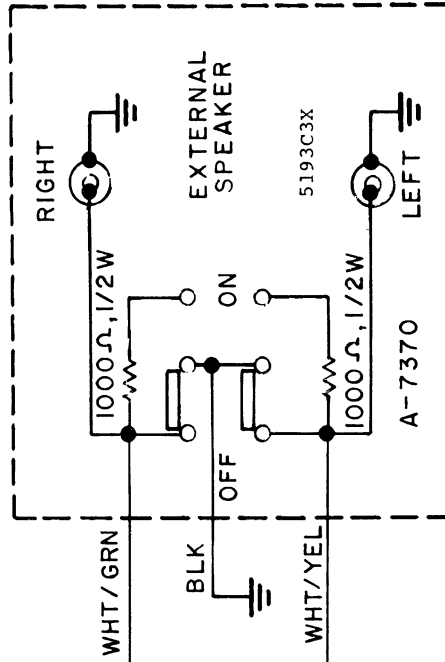
JR900P31, P32, P33, P34, P35, P36

J902P31, P32, P33

JR902P31, P32, P33, P34

J903PN31, PN32

JR903PN, PN31, PN32, PN33, PN34



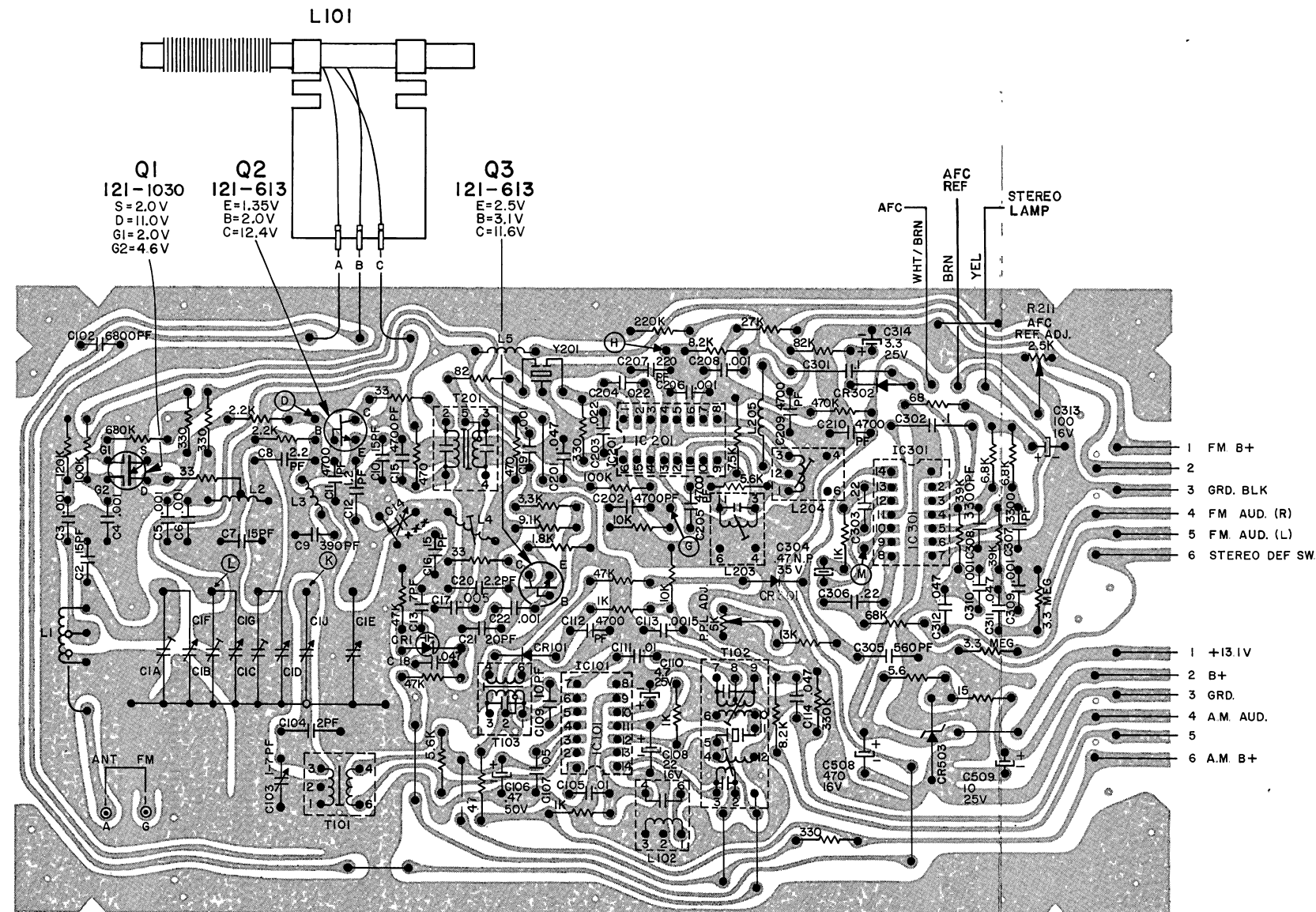
⊙ INDICATES WHITE OR YELLOW VOICE COIL
POLARITY IDENTIFICATION DOT ON SPEAKER

SPEAKER WIRING SCHEMATICS

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
C1A		FM ANTENNA TRIMMER	C462	22-2839	680 PFD DISC 500V	R457	83-9821-34	27 OHM
C1B		FM ANTENNA TUNING	C463	22-5892	1 MFD MYLAR 100V	R458	83-9821-42	2.7K OHM
C1C		FM RF TRIMMER	C464	22-7151-08	100 MFD ELECTROLYTIC 16V	R459	83-9821-21	1 OHM
C1D		FM RF TRIMMER	C465	22-2939	680 PFD DISC 500V	R470	83-1757	220 OHM 1/2W 10%
C1E	22-7578	FM ANTENNA TUNING	C466	22-7151-07	100 MFD ELECTROLYTIC 16V			
C1F		AM ANTENNA TRIMMER	C468	22-3383	100 PFD DISC 500V	R501	63-7374	62 OHM 5% 1/2W
C1G		AM ANTENNA TUNING	C469	22-7613-14	.001 MFD DISC 50V	R502	83-9821-18	5.6 OHM
C1H		AM OSCILLATOR TUNING	C471	22-6048	22 MFD RF DISC 50V	R503	83-9821-28	2.2 OHM 1/2W 10%
C1I		7 PFD DISC 500V	C472	22-7152-09	220 MFD ELECTROLYTIC 25V	R508R	83-1065-70	2.2 OHM 20% 1/2W
C2	22-2513	15 PF DISC 500V						
C3	22-2642	33 PF DISC 500V	C501	22-24905	.01 MFD DISC 500V	L1	20-3771	FM ANTENNA COIL
C4	22-7621-12	.001 MFD DISC 25V	C502	22-24905	.01 MFD DISC 500V	L2	20-3789	FM R.F. COIL
C5	22-2729	.001 MFD DISC 25V	C503A	22-7152-32	100M MFD ELECTROLYTIC 25V	L3	20-1637	TRA COIL 10.7 MHZ
C6	22-2729	15 PF DISC 50V	C503B	22-7431-07	.01 MFD DISC 150VAC	L4	4-3772	FM OSCILLATOR COIL
C7	22-2642	15 PF DISC 50V	C505A	22-7431-07	.01 MFD DISC 150VAC	L5	20-2033	10uH RF CHOKE
C8	22-6225-26	2.2 PF DISC 500V	C508	22-7151-11	470 MFD ELECTROLYTIC 16V			
C9	22-3177	380 PF DISC 500V	C509	22-7151-04	10 MFD ELECTROLYTIC 16V	L101	A-4781	AM ANTENNA ASSEMBLY
C10	22-7615-04	.047 MFD DISC 50V				L102	20-3776	TRAP COIL 455 KHZ
C11	22-5164	1.2 PF GIMMICK 50V	R1	63-9821-88	4.7K OHM	L103	IN T102	AM FILTER PRIMARY
C12	22-6344	7 PF DISC 50V	R2	63-9821-82	2.2K OHM	L104	T102	AM FILTER SECONDARY
C13	22-7460	1.0 TO 7 PF FM OSCILLATOR CERAMIC TRIMMER	R3	63-9821-66	390 OHM	L201	IN T201	10.7 MHZ IF PRIMARY
C14	22-7615-04	.0047 MFD DISC 50V	R4	63-9821-84	3.3K OHM	L202	IN T201	10.7 MHZ IF SECONDARY
C15	22-2642	15 PF DISC 500V	R5	63-9821-66	33 OHM	L203	20-3775	FM 27 uH COIL
C16	22-3080	.005 MFD DISC 25V	R6	63-9821-100	2.2K OHM	L204	20-3774	FM QUADRATURE DETECTOR
C17	22-7615-10	.047 MFD DISC 50V	R7	63-9821-98	2.2K OHM	L205	20-3773	10uH RF CHOKE
C18	22-2729	.001 MFD DISC 25V	R8	63-9821-36	33 OHM			
C19	22-6225-26	2.2 PF DISC 500V	R9	63-9821-64	470 OHM			
C20	22-7621-17	20 PF DISC 50V	R10	63-9821-64	470 OHM	CR1	103-47-01	APC DIODE
C21	22-2729	.001 MFD DISC 25V	R11	63-9821-64	470 OHM	CR101	103-23-01	GERMANIUM DIODE
C22	22-7613-22	.0088 MFD DISC 50V	R12	63-9821-12	47K OHM			
C23	22-7460	1.7 PF TRIMMER AM OSCILLATOR	R13	63-9821-15	8.1K OHM			
C24	22-4819	2 PF TUBULAR 500V	R14	63-9821-12	47K OHM	CR301	103-142-01	SILICON DIODE
C25	22-7615-06	.01 MFD 50V	R15	63-9819	33 OHM			
C26	22-7153-25	.047 MFD ELECTROLYTIC 50V	R16	63-9821-94	3.3K OHM	CRX501A	212-76-02	SILICON RECTIFIER
C27	22-7615-10	.047 MFD DISC 50V	R17	63-9821-94	3.3K OHM	CRX503	212-76-02	SILICON RECTIFIER
C28	22-7615-06	.01 MFD DISC 50V	R18	63-9821-94	3.3K OHM	CRX503	212-76-02	SILICON RECTIFIER
C29	22-7153-25	.047 MFD ELECTROLYTIC 50V	R19	63-9821-94	3.3K OHM	CRX503	212-76-02	SILICON RECTIFIER
C30	22-7615-10	.047 MFD DISC 50V	R20	63-9821-94	3.3K OHM			
C31	22-7615-06	.01 MFD DISC 50V	R21	63-9821-94	3.3K OHM			
C32	22-7615-06	.01 MFD DISC 50V	R22	63-9821-94	3.3K OHM			
C33								



PIN	VOLTS	PIN	VOLTS
1	0.0	8	0.8
2	0.2	9	18.4
TAB	0.0	TAB	0.0
6	10.3	13	9.0
7	1.4	14	0.0



**CHASSIS 3WJR50, 50Z – CHASSIS WIRING AND COMPONENTS
VIEWED FROM FOIL SIDE – RF/IF/MPX**

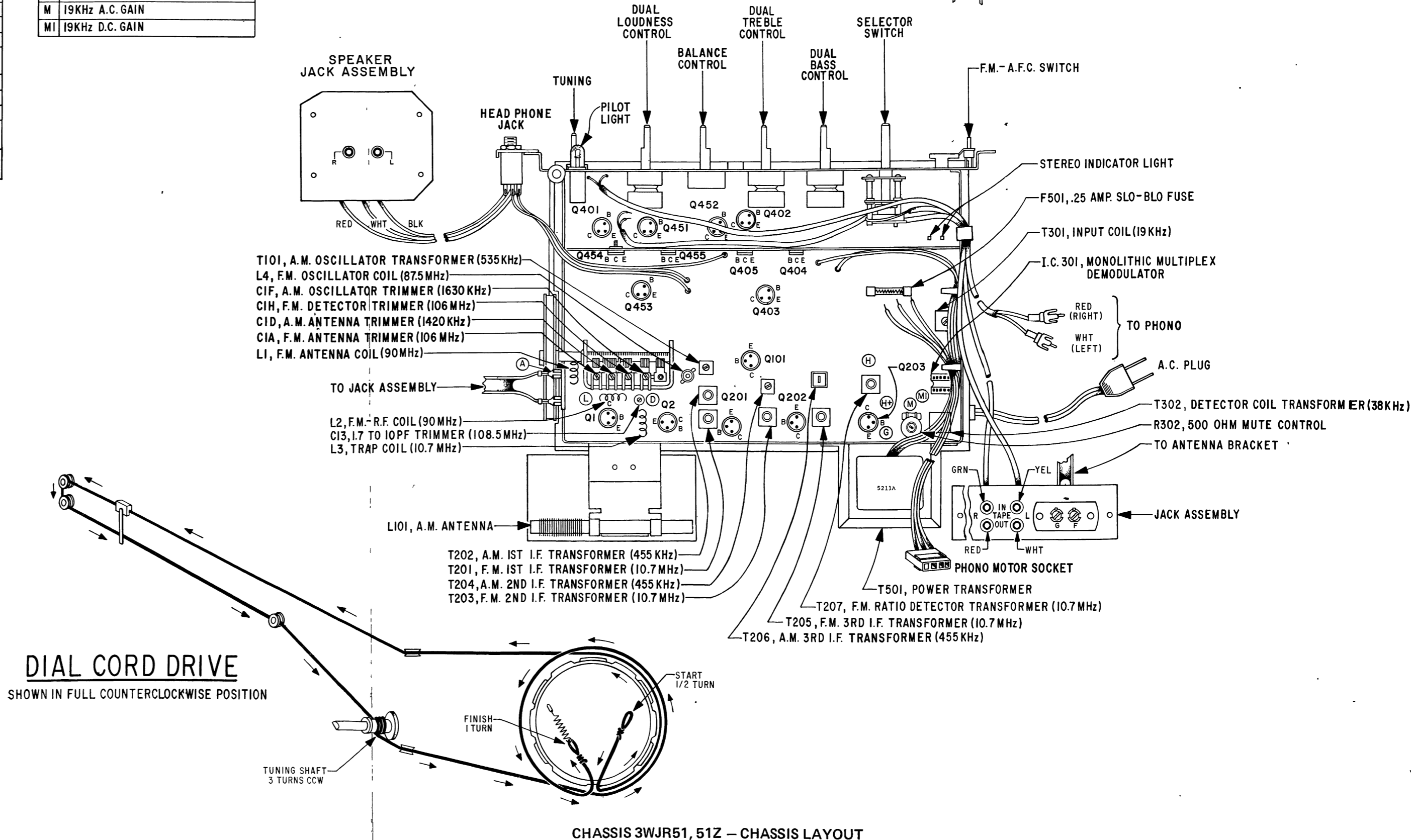
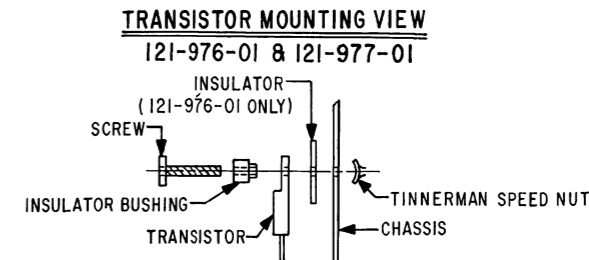
3WJR50(Z)RF
3WJR52(Z)RF

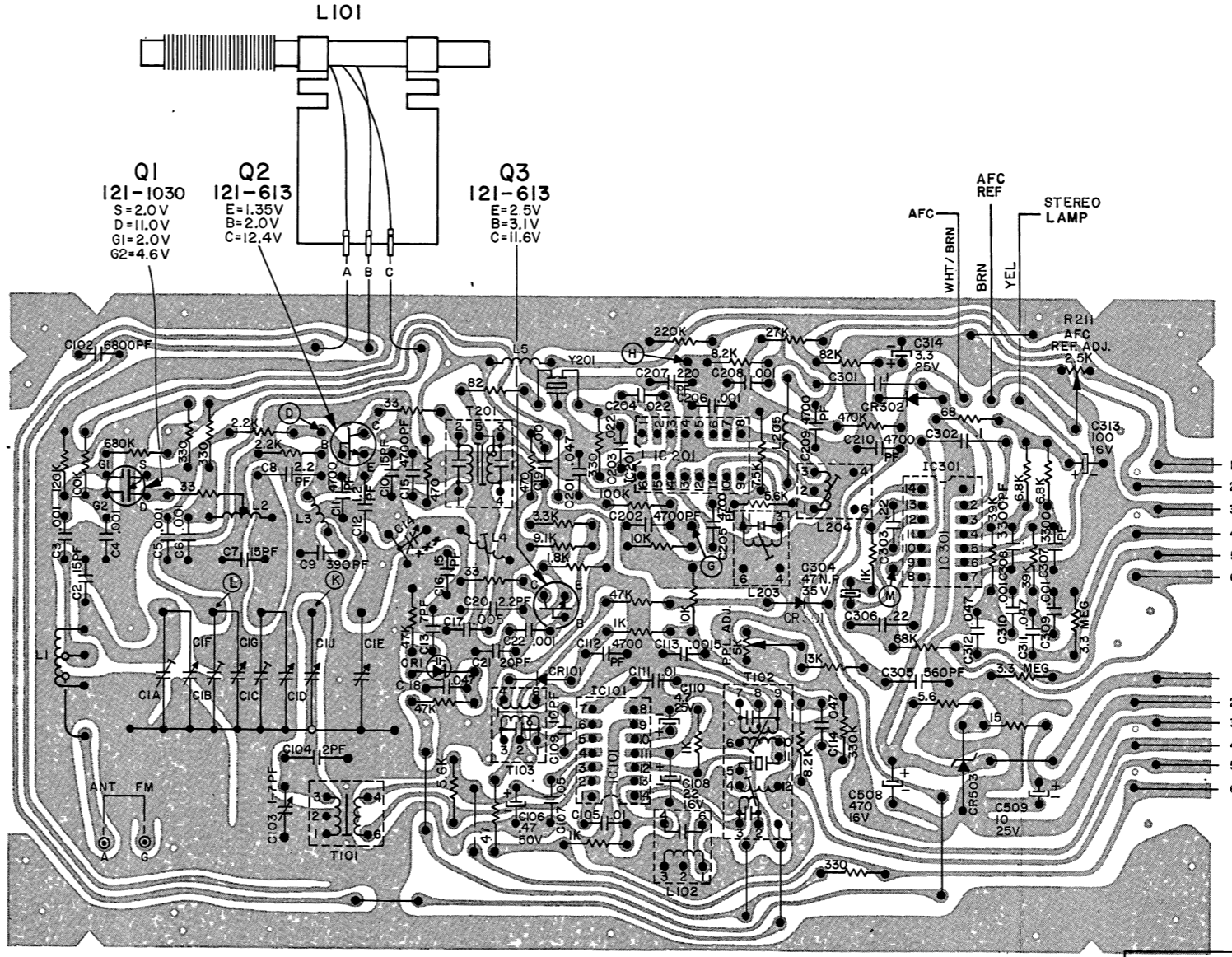
5195BI 620 D2
5197AI

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
C10		F.M. DETECTOR TRIMMER	C482		1 MFD ELECTROLYTIC 50V	R450		8.2 MEG OHM 5% (ALT. 83-7950/12W 10K)
C18		F.M. DETECTOR TUNING	C483		680 PF DISC 500V	R453		150K OHM 1/2W
C19		F.M. OSCILLATOR TRIMMER				R454		83-9022/28 OHM 5% (ALT. 83-7845/12W 10K)
C20		F.M. OSCILLATOR TUNING				R456		33K OHM 5% (ALT. 83-7844/12W 10K)
C21	72-1134	A.M. ANTENNA TUNING	C468		1 MFD ELECTROLYTIC 50V	R457		100K OHM 1/2W
C22		A.M. OSCILLATOR TRIMMER	C469		680 PF DISC 500V	R459		22K OHM 5% (ALT. 83-7841/12W 10K)
C23		A.M. OSCILLATOR TUNING	C467		220 PF DISC 500V	R461		220K OHM 5% (ALT. 83-7883/12W 10K)
C24		F.M. ANTENNA TUNING	C470		7-1150/09V 10V	R463		83-9024/48 OHM 5% (ALT. 83-7871/12W 10K)
C25		F.M. ANTENNA TUNING	C472		470 MFD ELECTROLYTIC 25V	R464		3.3K OHM 5% (ALT. 83-7806/12W 10K)
C26		8 PF DISC 105V 500V	C473		470 MFD MYLAR 10V	R465		83-9021/48 OHM 5% (ALT. 83-7872/12W 10K)
C27		101 MFD DISC 50V	C474		470 MFD MYLAR 10V	R466		47K OHM 5% (ALT. 83-7864/12W 10K)
C28		8 PF DISC 105V 500V	C501		100 MFD DISC 500V	R467		4.3K OHM 5% (ALT. 83-7811/12W 10K)
C29		8 PF DISC 105V 500V	C502		2-7417/17 100K OHM 5% (ALT. 83-7824/12W 10K)	R468		83-9022/48 OHM 5% (ALT. 83-7882/12W 10K)
C30		30K 500V 105V 500V	C503		2-7417/17 100K OHM 5% (ALT. 83-7824/12W 10K)	R469		220K 12W 5% (ALT. 83-7357/12W 10K)
C31		3.3 PF GUMMICK .35V 500V	C505		47 MFD ELECTROLYTIC 10V	R471		150K 12W 5% (ALT. 83-7866/12W 10K)
C32		2-7427/17 10V	C506		2-7417/17 100K OHM 5% (ALT. 83-7824/12W 10K)	R472		150K 12W 5% (ALT. 83-7377/12W 5K)
C33		3.3 PF DISC 25 PF 25V	C507		47 MFD MYLAR 10V	R473		1 OHM 12W
C34		101 MFD DISC 50V	C508		2-7417/17 100K OHM 5% (ALT. 83-7824/12W 10K)	R474		20K OHM 5% (ALT. 83-7831/12W 10K)
C35		2-7427/17 10V	C509		100 MFD DISC 500V	R475		220K OHM 12W
C36		8.5 PF DISC 105V 25V 25V						
C37		1.7 TO 10 PF CERAMIC TRIMMER	R1	93-9001-62	300 OHM 5% (ALT. 83-7768/12W 10K)	R4801E	93-9001-62	20K OHM 5% (ALT. 83-7761/12W 10K)
C38		470 MFD DISC 50V	R2	83-4213	470 OHM 5%	R4802	93-9001-62	2.2K OHM 5% (ALT. 83-7799/12W 10K)
C39		100 PF POLYESTER VRENE 125V	R3	83-9021-48	83-9021-48 OHM 5% (ALT. 83-7873/12W 10K)	R4803E	93-9026-04	1.5K OHM 5% (ALT. 83-7761/12W 10K)
C40		17 PF DISC 150V 500V	R4	83-9021-78	1.8K OHM 5% (ALT. 83-7768/12W 10K)			
C41		300 PF DISC 50V	R5	83-9021-18	10K OHM 5% (ALT. 83-7883/12W 10K)			
C42		300 PF DISC 50V	R6	83-9021-08	33 OHM 5% (ALT. 83-7888/12W 10K)			
C43		300 PF DISC 50V	R8	83-9021-36	12K OHM 5% (ALT. 83-7881/12W 10K)			
C44		300 PF DISC 50V	R9	83-9021-36	33 OHM 5% (ALT. 83-7888/12W 10K)	L1	20-1321	FM 10.7MHZ COIL
C45		300 PF DISC 50V	R9	83-9021-36	470K OHM 5% (ALT. 83-7888/12W 10K)	L2	20-1391	TRAP COIL 10.7MHZ
C46		300 PF DISC 50V				L3	20-1391	FM OSCILLATOR COIL
C47		300 PF DISC 50V						
C48		300 PF DISC 50V	R101	83-9021-36	150 OHM 5% (ALT. 83-7834/12W 10K)	L101	83-9039-22	AM ANTENNA ASSEMBLY
C49		300 PF DISC 50V	R102	83-1068	50K OHM 5% (ALT. 83-7761/12W 10K)	L102	83-9040-06	FERRITE CORE SLEVE
C50		300 PF DISC 50V	R103	83-9021-96	10K OHM 5% (ALT. 83-7882/12W 10K)	L103	83-9040-06	AM OSCILLATOR TRANS PRI
C51		300 PF DISC 50V	R104	83-1789	1K OHM 5% (ALT. 83-7875/12W 10K)	L104	83-9040-06	AM OSCILLATOR TRANS SEC
C52		300 PF DISC 50V	R105	83-9021-64	470 OHM 5% (ALT. 83-7771/12W 10K)	L201	83-9040-06	15T IF AM 45K 45K 100 MHz PRI
C53		300 PF DISC 50V				L202	83-9040-06	15T IF AM 45K 45K 100 MHz PRI
C54		300 PF DISC 50V	R201	83-9021-68	680 OHM 5% (ALT. 83-7778/12W 10K)	L203	83-9040-06	15T IF AM 45K 45K 100 MHz PRI
C55		300 PF DISC 50V	R202	83-9021-58	270 OHM 5% (ALT. 83-7761/12W 10K)	L205	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ PRI
C56		300 PF DISC 50V	R203	83-9021-64	470 OHM 5% (ALT. 83-7772/12W 10K)	L206	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ SEC
C57		300 PF DISC 50V	R204	83-9021-96	10K OHM 5% (ALT. 83-7883/12W 10K)	L207	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ PRI
C58		300 PF DISC 50V	R205	83-9021-96	10K OHM 5% (ALT. 83-7882/12W 10K)	L208	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ SEC
C59		300 PF DISC 50V	R206	83-9021-48	83-9021-48 OHM 5% (ALT. 83-7873/12W 10K)	L209	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ PRI
C60		300 PF DISC 50V	R207	83-9021-12	1K OHM 5% (ALT. 83-7875/12W 10K)	L210	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ SEC
C61		300 PF DISC 50V	R208	83-9021-60	22K OHM 5% (ALT. 83-7769/12W 10K)	L211	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ SEC
C62		300 PF DISC 50V	R209	83-9021-60	22K OHM 5% (ALT. 83-7769/12W 10K)	L212	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ PRI
C63		300 PF DISC 50V	R210	83-9021-60	1K OHM 5% (ALT. 83-7810/32 1/4W 10K)	L213	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ SEC
C64		300 PF DISC 50V	R211	83-9021-66	470 OHM 5% (ALT. 83-7772/12W 10K)	L214	83-9040-06	2ND IF TRANSFORMER 0.7 MHZ SEC
C65		300 PF DISC 50V	R212	83-9021-66	470 OHM 5% (ALT. 83-7772/12W 10K)			
C66		300 PF DISC 50V	R213	83-9021-66	680 OHM 5% (ALT. 83-7778/12W 10K)	T214	83-9040-06	RATIO DETECTOR TRANS 10.7MHZ SEC
C67		300 PF DISC 50V	R214	83-9021-68	680 OHM 5% (ALT. 83-7778/12W 10K)			
C68		300 PF DISC 50V	R215	83-9021-68	47K OHM 5% (ALT. 83-7813/12W 10K)	T101	93-3271	AM OSCILLATOR TRANSFORMER
C69		300 PF DISC 50V	R216	83-9021-68	47K OHM 5% (ALT. 83-7813/12W 10K)			
C70		300 PF DISC 50V	R217	83-9021-68	2.2K OHM 5% (ALT. 83-7769/12W 10K)	T202	93-3540	FM 15T IF AM 45K 45K 100 MHz
C71		300 PF DISC 50V	R218	83-9021-68	2.2K OHM 5% (ALT. 83-7769/12W 10K)	T203	93-3540	FM 15T IF AM 45K 45K 100 MHz
C72		300 PF DISC 50V	R219	83-9021-64	22K OHM 5% (ALT. 83-7841/12W 10K)	T204	93-3540	FM 15T IF AM 45K 45K 100 MHz
C73		300 PF DISC 50V	R220	83-9021-64	3.3K OHM 5% (ALT. 83-7804/12W 10K)	T205	93-3540	FM 15T IF AM 45K 45K 100 MHz
C74		300 PF DISC 50V	R221	83-9021-64	3.3K OHM 5% (ALT. 83-7804/12W 10K)	T206	93-3540	FM 15T IF AM 45K 45K 100 MHz
C75		300 PF DISC 50V	R222	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T207	93-3540	FM 15T IF AM 45K 45K 100 MHz
C76		300 PF DISC 50V	R223	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T208	93-3540	FM 15T IF AM 45K 45K 100 MHz
C77		300 PF DISC 50V	R224	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T209	93-3540	FM 15T IF AM 45K 45K 100 MHz
C78		300 PF DISC 50V	R225	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T210	93-3540	FM 15T IF AM 45K 45K 100 MHz
C79		300 PF DISC 50V	R226	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T211	93-3540	FM 15T IF AM 45K 45K 100 MHz
C80		300 PF DISC 50V	R227	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T212	93-3540	FM 15T IF AM 45K 45K 100 MHz
C81		300 PF DISC 50V	R228	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T213	93-3540	FM 15T IF AM 45K 45K 100 MHz
C82		300 PF DISC 50V	R229	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T214	93-3540	FM 15T IF AM 45K 45K 100 MHz
C83		300 PF DISC 50V	R230	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T215	93-3540	FM 15T IF AM 45K 45K 100 MHz
C84		300 PF DISC 50V	R231	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T216	93-3540	FM 15T IF AM 45K 45K 100 MHz
C85		300 PF DISC 50V	R232	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T217	93-3540	FM 15T IF AM 45K 45K 100 MHz
C86		300 PF DISC 50V	R233	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T218	93-3540	FM 15T IF AM 45K 45K 100 MHz
C87		300 PF DISC 50V	R234	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T219	93-3540	FM 15T IF AM 45K 45K 100 MHz
C88		300 PF DISC 50V	R235	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T220	93-3540	FM 15T IF AM 45K 45K 100 MHz
C89		300 PF DISC 50V	R236	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T221	93-3540	FM 15T IF AM 45K 45K 100 MHz
C90		300 PF DISC 50V	R237	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T222	93-3540	FM 15T IF AM 45K 45K 100 MHz
C91		300 PF DISC 50V	R238	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T223	93-3540	FM 15T IF AM 45K 45K 100 MHz
C92		300 PF DISC 50V	R239	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T224	93-3540	FM 15T IF AM 45K 45K 100 MHz
C93		300 PF DISC 50V	R240	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T225	93-3540	FM 15T IF AM 45K 45K 100 MHz
C94		300 PF DISC 50V	R241	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T226	93-3540	FM 15T IF AM 45K 45K 100 MHz
C95		300 PF DISC 50V	R242	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T227	93-3540	FM 15T IF AM 45K 45K 100 MHz
C96		300 PF DISC 50V	R243	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T228	93-3540	FM 15T IF AM 45K 45K 100 MHz
C97		300 PF DISC 50V	R244	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T229	93-3540	FM 15T IF AM 45K 45K 100 MHz
C98		300 PF DISC 50V	R245	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T230	93-3540	FM 15T IF AM 45K 45K 100 MHz
C99		300 PF DISC 50V	R246	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T231	93-3540	FM 15T IF AM 45K 45K 100 MHz
C100		300 PF DISC 50V	R247	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T232	93-3540	FM 15T IF AM 45K 45K 100 MHz
C101		300 PF DISC 50V	R248	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T233	93-3540	FM 15T IF AM 45K 45K 100 MHz
C102		300 PF DISC 50V	R249	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T234	93-3540	FM 15T IF AM 45K 45K 100 MHz
C103		300 PF DISC 50V	R250	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T235	93-3540	FM 15T IF AM 45K 45K 100 MHz
C104		300 PF DISC 50V	R251	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T236	93-3540	FM 15T IF AM 45K 45K 100 MHz
C105		300 PF DISC 50V	R252	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T237	93-3540	FM 15T IF AM 45K 45K 100 MHz
C106		300 PF DISC 50V	R253	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T238	93-3540	FM 15T IF AM 45K 45K 100 MHz
C107		300 PF DISC 50V	R254	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T239	93-3540	FM 15T IF AM 45K 45K 100 MHz
C108		300 PF DISC 50V	R255	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T240	93-3540	FM 15T IF AM 45K 45K 100 MHz
C109		300 PF DISC 50V	R256	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T241	93-3540	FM 15T IF AM 45K 45K 100 MHz
C110		300 PF DISC 50V	R257	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T242	93-3540	FM 15T IF AM 45K 45K 100 MHz
C111		300 PF DISC 50V	R258	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T243	93-3540	FM 15T IF AM 45K 45K 100 MHz
C112		300 PF DISC 50V	R259	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T244	93-3540	FM 15T IF AM 45K 45K 100 MHz
C113		300 PF DISC 50V	R260	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T245	93-3540	FM 15T IF AM 45K 45K 100 MHz
C114		300 PF DISC 50V	R261	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T246	93-3540	FM 15T IF AM 45K 45K 100 MHz
C115		300 PF DISC 50V	R262	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T247	93-3540	FM 15T IF AM 45K 45K 100 MHz
C116		300 PF DISC 50V	R263	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T248	93-3540	FM 15T IF AM 45K 45K 100 MHz
C117		300 PF DISC 50V	R264	83-9021-64	470 OHM 5% (ALT. 83-7768/12W 10K)	T249	93-3540	FM 15T IF AM 45K 45K 100 MHz
C118		300 PF DISC 50V	R265	83-9021-64	2.2K OHM 5% (ALT. 83-7775/12W 10K)	T250	93-3540	FM 15T IF AM 45K 45K 100 MHz
C119		300 PF DISC 50V	R2					

TRANSISTORS		
No.	PART No.	DESCRIPTION
Q1	121-612	F.M. - R.F.
Q2	121-613	F.M. CONVERTER
Q101	121-735	A.M. CONVERTER
Q201	121-614	A.M.-F.M. 1st I.F.
Q202	121-950	A.M.-F.M. 2nd I.F.
Q203		F.M. 3rd I.F.
Q401		PRE-AMPLIFIER
Q402	121-433	PRE-DRIVER
Q403	121-1004	DRIVER
Q404	121-976-01	OUTPUT
Q405	121-977-01	
Q451	121-433	PRE-AMPLIFIER
Q452		PRE-DRIVER
Q453	121-1004	DRIVER
Q454	121-976-01	OUTPUT
Q455	121-977-01	
IC301	221-79-01	MULTIPLEX DEMODULATOR
	OR 221-79	

TEST POINTS	
A	F.M. ANTENNA INPUT
D	1st F.M. I.F. INPUT
G	3rd F.M. OUTPUT
H	F.M. DETECTOR OUTPUT
H+	RATIO DETECTOR PRIMARY TUNING
L	A.M. R.F. & I.F. INPUT
M	19KHz A.C. GAIN
MI	19KHz D.C. GAIN





**CHASSIS 3WJR52, 52Z – CHASSIS WIRING AND COMPONENTS
VIEWED FROM FOIL SIDE – RF/IF/MPX**

CHASSIS 8WJR56

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
C1A	22-7134	F.M. DETECTOR TRIMMER	R769	63-9921-56	150K OHM	Q1	121-953	S = 2.4V
C1B		F.M. DETECTOR TUNING	R770	63-9921-72	1K OHM	Q2	121-613	E = 1.1V
C1C		F.M. OSCILLATOR TUNING	R771	63-9921-70	1K OHM	Q201	121-614	E = 1.3V
C1D		A.M. ANTENNA TRIMMER	R772	63-9921-24	22K OHM	Q101	121-735	E = 1.3V
C1E		A.M. ANTENNA TUNING	R773	63-9921-90	5.6K OHM	Q202	121-950	E = 2.22V
C1F		A.M. OSCILLATOR TUNING	R774	63-9921-56	100K OHM	Q203	121-950	E = 1.44V
C1G		A.M. OSCILLATOR TRIMMER	R775	63-9921-72	1K OHM			B = 2.17V
C1H		F.M. ANTENNA TRIMMER	R776	63-9921-70	1K OHM			C = 9.06V
C1I		F.M. ANTENNA TUNING	R777	63-9921-24	22K OHM			
C1J		F.M. OSCILLATOR TUNING	R778	63-9921-90	5.6K OHM			
C2	22-7122-20	2.7 PF DISC 50V	R779	63-9921-56	100K OHM			
C3	22-7122-20	2.7 PF DISC 50V	R780	63-9921-72	1K OHM			
C4	22-7122-20	2.7 PF DISC 50V	R781	63-9921-70	1K OHM			
C5	22-7122-20	2.7 PF DISC 50V	R782	63-9921-24	22K OHM			
C6	22-7122-20	2.7 PF DISC 50V	R783	63-9921-90	5.6K OHM			
C7	22-7122-20	2.7 PF DISC 50V	R784	63-9921-56	100K OHM			
C8	22-7122-20	2.7 PF DISC 50V	R785	63-9921-72	1K OHM			
C9	22-7122-20	2.7 PF DISC 50V	R786	63-9921-70	1K OHM			
C10	22-7122-20	2.7 PF DISC 50V	R787	63-9921-24	22K OHM			
C11	22-7122-20	2.7 PF DISC 50V	R788	63-9921-90	5.6K OHM			
C12	22-7122-20	2.7 PF DISC 50V	R789	63-9921-56	100K OHM			
C13	22-7122-20	2.7 PF DISC 50V	R790	63-9921-72	1K OHM			
C14	22-7122-20	2.7 PF DISC 50V	R791	63-9921-70	1K OHM			
C15	22-7122-20	2.7 PF DISC 50V	R792	63-9921-24	22K OHM			
C16	22-7122-20	2.7 PF DISC 50V	R793	63-9921-90	5.6K OHM			
C17	22-7122-20	2.7 PF DISC 50V	R794	63-9921-56	100K OHM			
C18	22-7122-20	2.7 PF DISC 50V	R795	63-9921-72	1K OHM			
C19	22-7122-20	2.7 PF DISC 50V	R796	63-9921-70	1K OHM			
C20	22-7122-20	2.7 PF DISC 50V	R797	63-9921-24	22K OHM			
C21	22-7122-20	2.7 PF DISC 50V	R798	63-9921-90	5.6K OHM			
C22	22-7122-20	2.7 PF DISC 50V	R799	63-9921-56	100K OHM			
C23	22-7122-20	2.7 PF DISC 50V	R800	63-9921-72	1K OHM			
C24	22-7122-20	2.7 PF DISC 50V	R801	63-9921-70	1K OHM			
C25	22-7122-20	2.7 PF DISC 50V	R802	63-9921-24	22K OHM			
C26	22-7122-20	2.7 PF DISC 50V	R803	63-9921-90	5.6K OHM			
C27	22-7122-20	2.7 PF DISC 50V	R804	63-9921-56	100K OHM			
C28	22-7122-20	2.7 PF DISC 50V	R805	63-9921-72	1K OHM			
C29	22-7122-20	2.7 PF DISC 50V	R806	63-9921-70	1K OHM			
C30	22-7122-20	2.7 PF DISC 50V	R807	63-9921-24	22K OHM			
C31	22-7122-20	2.7 PF DISC 50V	R808	63-9921-90	5.6K OHM			
C32	22-7122-20	2.7 PF DISC 50V	R809	63-9921-56	100K OHM			
C33	22-7122-20	2.7 PF DISC 50V	R810	63-9921-72	1K OHM			
C34	22-7122-20	2.7 PF DISC 50V	R811	63-9921-70	1K OHM			
C35	22-7122-20	2.7 PF DISC 50V	R812	63-9921-24	22K OHM			
C36	22-7122-20	2.7 PF DISC 50V	R813	63-9921-90	5.6K OHM			
C37	22-7122-20	2.7 PF DISC 50V	R814	63-9921-56	100K OHM			
C38	22-7122-20	2.7 PF DISC 50V	R815	63-9921-72	1K OHM			
C39	22-7122-20	2.7 PF DISC 50V	R816	63-9921-70	1K OHM			
C40	22-7122-20	2.7 PF DISC 50V	R817	63-9921-24	22K OHM			
C41	22-7122-20	2.7 PF DISC 50V	R818	63-9921-90	5.6K OHM			
C42	22-7122-20	2.7 PF DISC 50V	R819	63-9921-56	100K OHM			
C43	22-7122-20	2.7 PF DISC 50V	R820	63-9921-72	1K OHM			
C44	22-7122-20	2.7 PF DISC 50V	R821	63-9921-70	1K OHM			
C45	22-7122-20	2.7 PF DISC 50V	R822	63-9921-24	22K OHM			
C46	22-7122-20	2.7 PF DISC 50V	R823	63-9921-90	5.6K OHM			
C47	22-7122-20	2.7 PF DISC 50V	R824	63-9921-56	100K OHM			
C48	22-7122-20	2.7 PF DISC 50V	R825	63-9921-72	1K OHM			
C49	22-7122-20	2.7 PF DISC 50V	R826	63-9921-70	1K OHM			
C50	22-7122-20	2.7 PF DISC 50V	R827	63-9921-24	22K OHM			
C51	22-7122-20	2.7 PF DISC 50V	R828	63-9921-90	5.6K OHM			
C52	22-7122-20	2.7 PF DISC 50V	R829	63-9921-56	100K OHM			
C53	22-7122-20	2.7 PF DISC 50V	R830	63-9921-72	1K OHM			
C54	22-7122-20	2.7 PF DISC 50V	R831	63-9921-70	1K OHM			
C55	22-7122-20	2.7 PF DISC 50V	R832	63-9921-24	22K OHM			
C56	22-7122-20	2.7 PF DISC 50V	R833	63-9921-90	5.6K OHM			
C57	22-7122-20	2.7 PF DISC 50V	R834	63-9921-56	100K OHM			
C58	22-7122-20	2.7 PF DISC 50V	R835	63-9921-72	1K OHM			
C59	22-7122-20	2.7 PF DISC 50V	R836	63-9921-70	1K OHM			
C60	22-7122-20	2.7 PF DISC 50V	R837	63-9921-24	22K OHM			
C61	22-7122-20	2.7 PF DISC 50V	R838	63-9921-90	5.6K OHM			
C62	22-7122-20	2.7 PF DISC 50V	R839	63-9921-56	100K OHM			
C63	22-7122-20	2.7 PF DISC 50V	R840	63-9921-72	1K OHM			
C64	22-7122-20	2.7 PF DISC 50V	R841	63-9921-70	1K OHM			
C65	22-7122-20	2.7 PF DISC 50V	R842	63-9921-24	22K OHM			
C66	22-7122-20	2.7 PF DISC 50V	R843	63-9921-90	5.6K OHM			
C67	22-7122-20	2.7 PF DISC 50V	R844	63-9921-56	100K OHM			
C68	22-7122-20	2.7 PF DISC 50V	R845	63-9921-72	1K OHM			
C69	22-7122-20	2.7 PF DISC 50V	R846	63-9921-70	1K OHM			
C70	22-7122-20	2.7 PF DISC 50V	R847	63-9921-24	22K OHM			
C71	22-7122-20	2.7 PF DISC 50V	R848	63-9921-90	5.6K OHM			
C72	22-7122-20	2.7 PF DISC 50V	R849	63-9921-56	100K OHM			
C73	22-7122-20	2.7 PF DISC 50V	R850	63-9921-72	1K OHM			
C74	22-7122-20	2.7 PF DISC 50V	R851	63-9921-70	1K OHM			
C75	22-7122-20	2.7 PF DISC 50V	R852	63-9921-24	22K OHM			
C76	22-7122-20	2.7 PF DISC 50V	R853	63-9921-90	5.6K OHM			
C77	22-7122-20	2.7 PF DISC 50V	R854	63-9921-56	100K OHM			
C78	22-7122-20	2.7 PF DISC 50V	R855	63-9921-72	1K OHM			
C79	22-7122-20	2.7 PF DISC 50V	R856	63-9921-70	1K OHM			
C80	22-7122-20	2.7 PF DISC 50V	R857	63-9921-24	22K OHM			
C81	22-7122-20	2.7 PF DISC 50V	R858	63-9921-90	5.6K OHM			
C82	22-7122-20	2.7 PF DISC 50V	R859	63-9921-56	100K OHM			
C83	22-7122-20	2.7 PF DISC 50V	R860	63-9921-72	1K OHM			
C84	22-7122-20	2.7 PF DISC 50V	R861	63-9921-70	1K OHM			
C85	22-7122-20	2.7 PF DISC 50V	R862	63-9921-24	22K OHM			
C86	22-7122-20	2.7 PF DISC 50V	R863	63-9921-90	5.6K OHM			
C87	22-7122-20	2.7 PF DISC 50V	R864	63-9921-56	100K OHM			
C88	22-7122-20	2.7 PF DISC 50V	R865	63-9921-72	1K OHM			
C89	22-7122-20	2.7 PF DISC 50V	R866	63-9921-70	1K OHM			
C90	22-7122-20	2.7 PF DISC 50V	R867	63-9921-24	22K OHM			
C91	22-7122-20	2.7 PF DISC 50V	R868	63-9921-90	5.6K OHM			
C92	22-7122-20	2.7 PF DISC 50V	R869	63-9921-56	100K OHM			
C93	22-7122-20	2.7 PF DISC 50V	R870	63-9921-72	1K OHM			
C94	22-7122-20	2.7 PF DISC 50V	R871	63-9921-70	1K OHM			
C95	22-7122-20	2.7 PF DISC 50V	R872	63-9921-24	22K OHM			
C96	22-7122-20	2.7 PF DISC 50V	R873	63-9921-90	5.6K OHM			
C97	22-7122-20	2.7 PF DISC 50V	R874	63-9921-56	100K OHM			
C98	22-7122-20	2.7 PF DISC 50V	R875	63-9921-72	1K OHM			
C99	22-7122-20	2.7 PF DISC 50V	R876	63-9921-70	1K OHM			
C100	22-7122-20	2.7 PF DISC 50V	R877	63-9921-24	22K OHM			
C101	22-7122-20	2.7 PF DISC 50V	R878	63-9921-90	5.6K OHM			
C102	22-7122-20	2.7 PF DISC 50V	R879	63-9921-56	100K OHM			
C103	22-7122-20	2.7 PF DISC 50V	R880	63-9921-72	1K OHM			
C104	22-7122-20	2.7 PF DISC 50V	R881	63-9921-70	1K OHM			
C105	22-7122-20	2.7 PF DISC 50V	R882	63-9921-24	22K OHM			
C106	22-7122-20	2.7 PF DISC 50V	R883	63-9921-90	5.6K OHM			
C107	22-7122-20	2.7 PF DISC 50V	R884	63-9921-56	100K OHM			
C108	22-7122-20	2.7 PF DISC 50V	R885	63-9921-72	1K OHM			
C109	22-7122-20	2.7 PF DISC 50V	R886	63-9921-70	1K OHM			
C110	22-7122-20	2.7 PF DISC 50V	R887	63-9921-24	22K OHM			
C111	22-7122-20	2.7 PF DISC 50V	R888	63-9921-90	5.6K OHM			
C112	22-7122-20	2.7 PF DISC 50V	R889	63-9921-56	100K OHM			
C113	22-7122-20	2.7 PF DISC 50V	R890	63-9921-72	1K OHM			
C114	22-7122-20	2.7 PF DISC 50V	R891	63-9921-70	1K OHM			
C115	22-7122-20	2.7 PF DISC 50V	R892	63-9921-24	22K OHM			
C116	22-7122-20	2.7 PF DISC 50V	R893	63-9921-90	5.6K OHM			
C117	22-7122-20	2.7 PF DISC 50V	R894	63-9921-56	100K OHM			
C118	22-7122-20	2.7 PF DISC 50V	R895	63-9921-72	1K OHM			
C119	22-7122-20	2.7 PF DISC 50V	R896	63-9921-70	1K OHM			
C120	22-7122-20	2.7 PF DISC 50V	R897	63-9921-24	22K OHM			
C121	22-7122-20	2.7 PF DISC 50V	R898	63-9921-90	5.6K OHM			
C122	22-7122-20	2.7 PF DISC 50V	R899	63-9921-56	100K OHM			
C123	22-7122-20	2.7 PF DISC 50V	R900	63-9921-72	1K OHM			
C124	22-7122-20	2.7 PF DISC 50V	R901	63-9921-70	1K OHM			
C125	22-7122-20	2.7 PF DISC 50V	R902	63-9921-24	22K OHM			
C126	22-7122-20	2.7 PF DISC 50V	R903	63-9921-90	5.6K OHM			
C127	22-7122-20	2.7 PF DISC 50V	R904	63-9921-56	100K OHM			
C128	22-7122-20	2.7 PF DISC 50V	R905	63-9921-72	1K OHM			
C129	22-7122-20	2.7 PF DISC 50V	R906	63-9921-70	1K OHM			
C130	22-7122-20	2.7 PF DISC 50V	R907	63-9921-24	22K OHM	</		



**MAGNETIC PREAMP CIRCUIT BOARD
DRAWING APPEARS ON PAGE 34**

Q203
121-950
E=2.5 V
B=3.2 V
C=11.7 V

Q202
121-950
E=1.4 V
B=2.1 V
C=12.0 V

Q102
121-735
E=1.5 V
B=2.0 V
C=12.8 V

Q101
121-850
E=0.5 V
B=1.2 V
C=12.0 V

Q303
121-950
E=0.02V-*.025V
B=0.08-*.10V
C=13.1V-*.03V

Q302
121-950
E=0.02V-*.025V
B=0.7V-*.055V
C=0.08V-*.10V

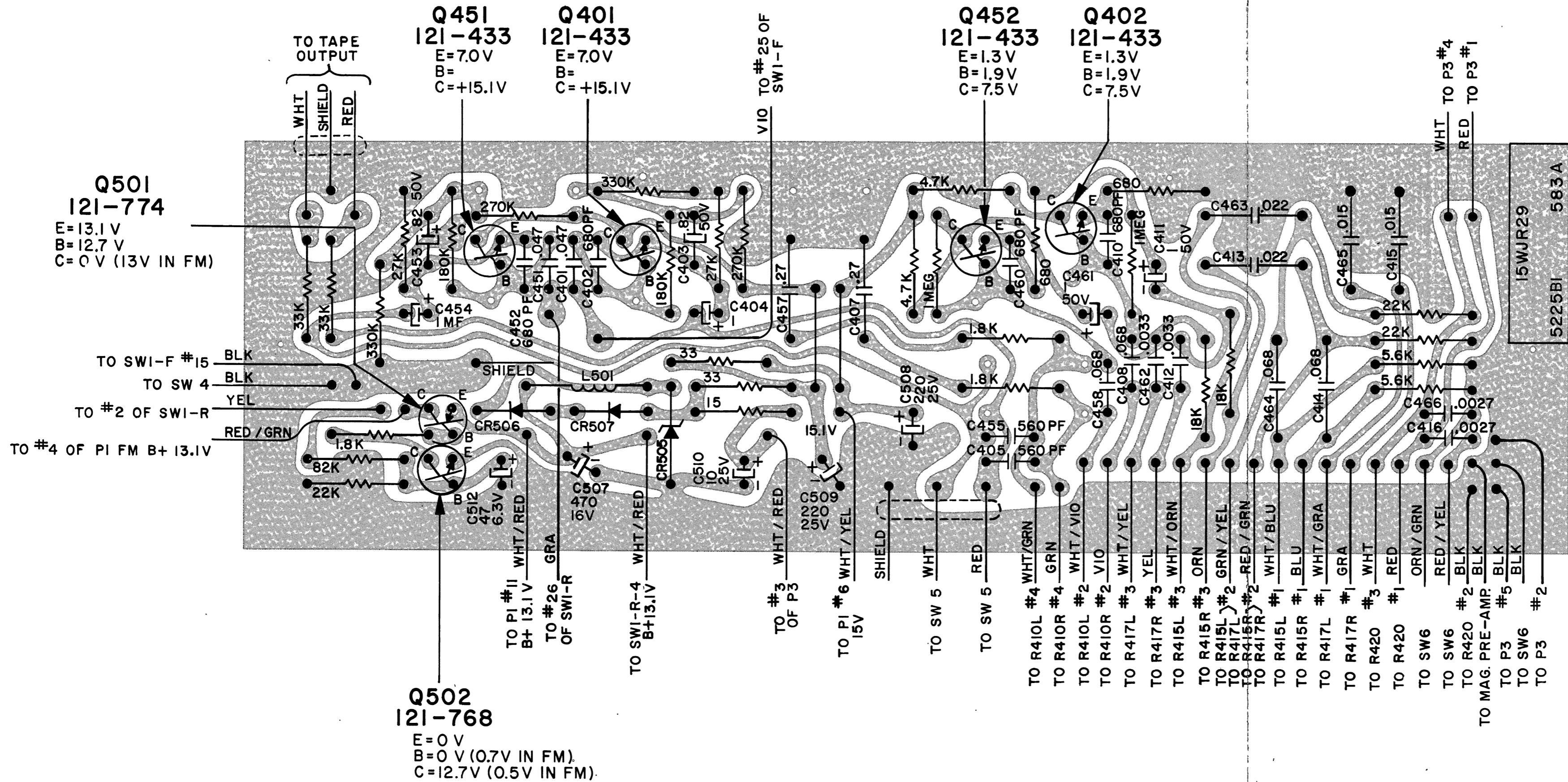
Q201
121-950
E=0V
B=0.7V
C=4.5V

Q2
121-613
E=1.1 V
B=1.7 V
C=12.6 V

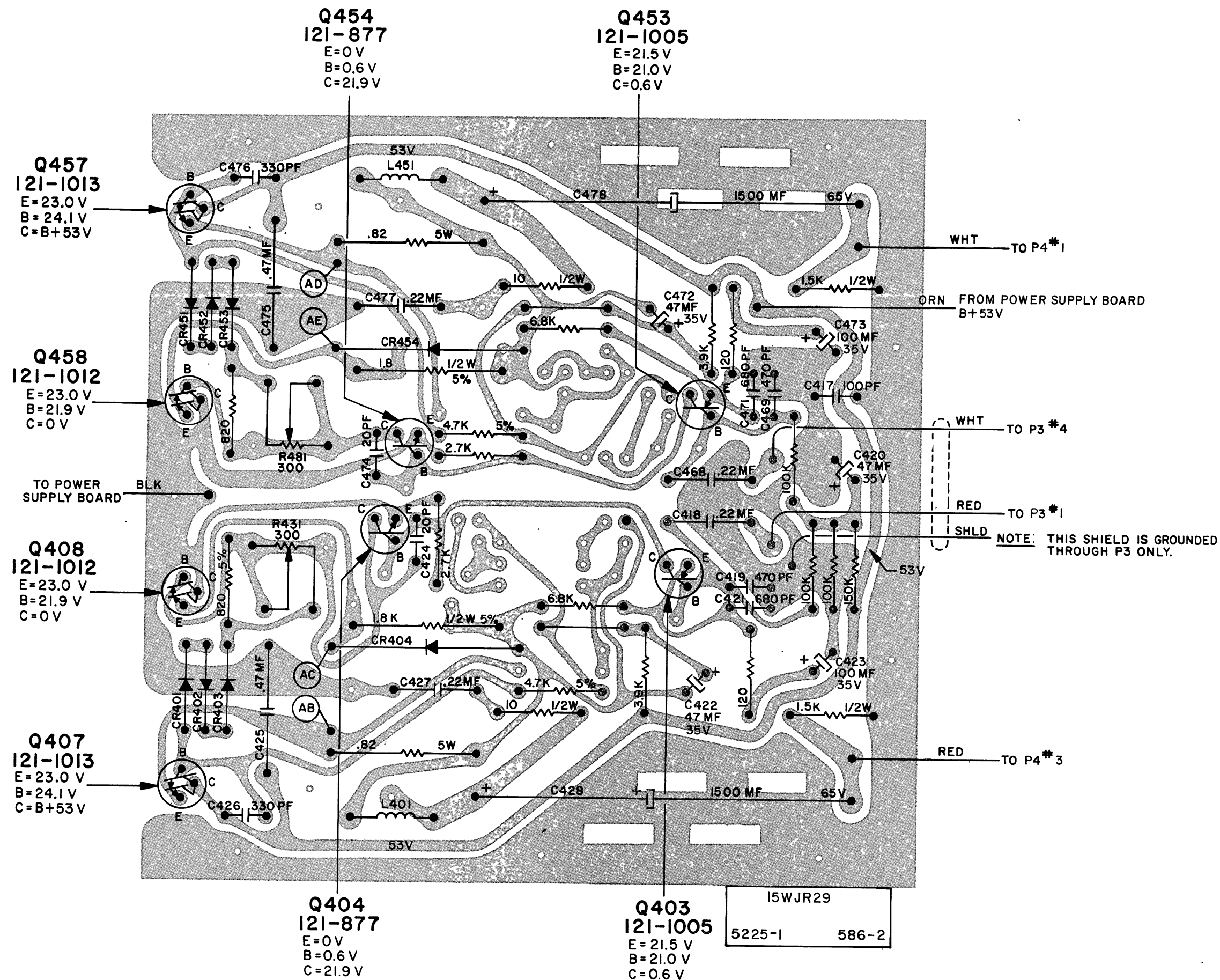
Q1
121-1024
(121-953 EARLY PRODUCTION)
G1=1.7 V
G2=5.6 V
D=9.8 V

15WJR29 585-3 5225B1

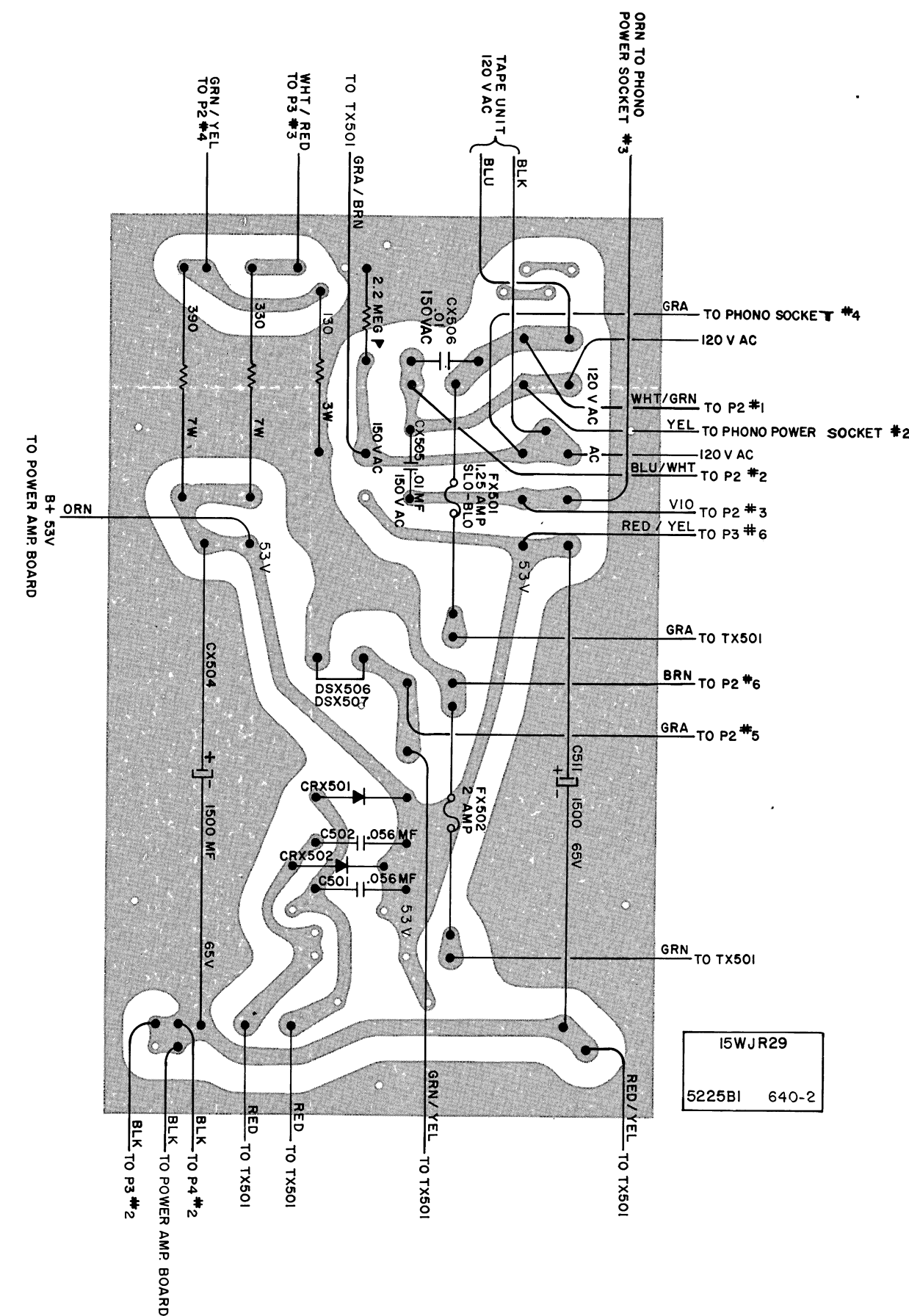
**CHASSIS 15WJR29 – CHASSIS WIRING
AND COMPONENTS VIEWED FROM FOIL SIDE – RF/IF/MPX**



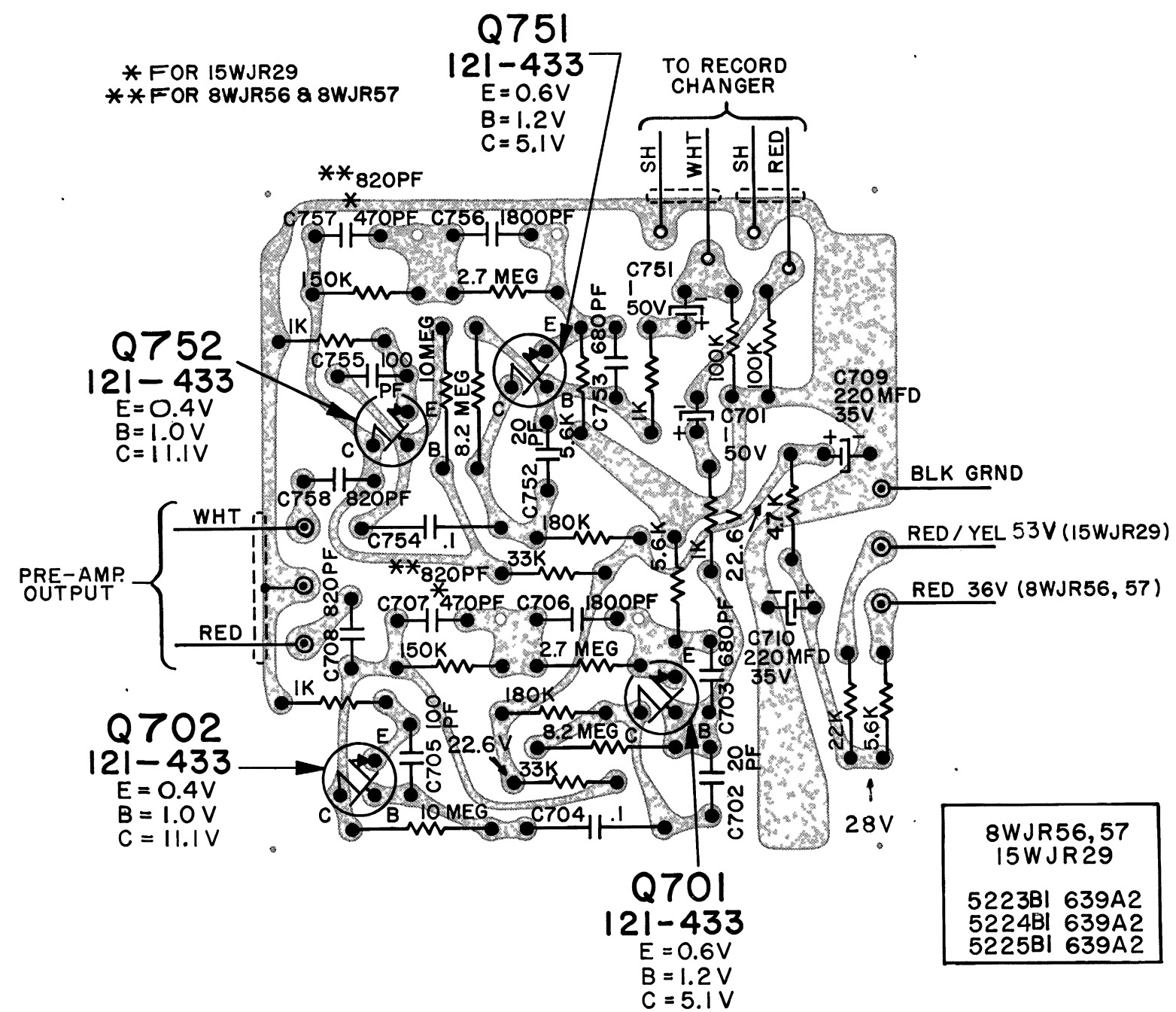
CHASSIS 15WJR29 - CHASSIS WIRING
AND COMPONENTS VIEWED FROM FOIL SIDE - PREAMPLIFIER



CHASSIS 15WJR29 – CHASSIS WIRING
AND COMPONENTS VIEWED FROM FOIL SIDE – POWER AMPLIFIER



CHASSIS 15WJR29 – CHASSIS WIRING
AND COMPONENTS VIEWED FROM FOIL SIDE – POWER SUPPLY



CHASSIS 8WJR56, 8WJR57, AND 15WJR29
CHASSIS WIRING AND COMPONENTS VIEWED FROM FOIL SIDE
MAGNETIC PHONO PREAMP